ASIAN MANAGEMENT INSIGHTS

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Pursue Sustainability, Stay Paranoid

An interview with Ho Kwon Ping, Founder and Executive Chairman of Banyan Tree Holdings

Achieving Success

In Silicon Valley

Care Labour Shortage

Needs a cure

Where the World is Heading in 2023 and Beyond

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Every facet of the company has to be examined while driving sustainable practices, and as an economist, I can tell you that it is all about trade-offs and the allocation of scarce resources according to your priorities.

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- *Havovi Joshi, Editor-in-Chief, Asian Management Insights*

ASIAN MANAGEMENT INSIGHTS

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FROM THE EDITOR

Charting directions and steadying the ship amidst the storms, waves and currents

If the COVID-19 pandemic was the central theme from 2020 to 2022, geopolitics looks set to take centre stage in 2023. Given the war in Ukraine, as well as the increasingly strident sabre-rattling between the US and China, the rest of the world is girding itself for what could be significant economic fallout. Throw in high inflation and rapidly rising interest rates, and it is no wonder the world appears to be in an extended period of instability and insecurity, otherwise known as a 'permacrisis'.

China's post-COVID reopening will provide a boost for the global economy, says Simon Baptist, Chief Economist of the Economist Intelligence Unit, but the country's ageing population–its mortality rate has surpassed its birth rate–and its maturing economy signal the end of double-digit GDP growth. Meanwhile, wider concerns over commodity security will occupy the attention of several governments, while the developed world ramps up its green transition to a low-carbon economy.

Banyan Tree Holdings, like the eponymous tree, has navigated the travails of the last few years and emerged stronger than ever. Its founder and Executive Chairman, Ho Kwon Ping, tells me how a commitment to physical sustainability and social justice built trust with employees, which guided the hospitality chain through the pandemic. From walking the talk by taking zero salary to reflecting on lessons learnt from numerous crises, he expresses optimism about Asia's prospects and urges fretful youth to just "do something because you will learn along the way".

Desmond Lim, co-founder of hourly worker people management platform Workstream, is a great example of doing and learning. The serial entrepreneur describes his experiences from running a restaurant while he was an undergraduate student, to working as an unpaid intern while taking his MBA, and the disappointment he experienced from a failed start-up. Through it all, he persevered and prevailed in Silicon Valley with the motto: Be humble and hungry.

Over in Southeast Asia, the start-up scene is maturing and founders can choose from plenty of investors and venture funds for investment. Yong Hsin Ning and Yvette Lim share how many founders are still unable to speak the language of numbers, and they therefore fail to attract the right investors. They propose a change in founders' behaviour through adherence to the 'Head', 'Heart', and 'Hand' principles.

Perhaps those founders would benefit from focusing on developing the right vision. According to Rameshwari Ramachandra, Poorani Thanusha, Phat Ho Tan Phan, and Max-Ferdinand Scheichenost, a core individual in the organisation must serve as the sponsor to give life to the vision, driving its adoption and implementation over the long term. Most importantly, the vision must address the fundamental concerns of the customer, and progress must be measurable.

MYbank in China had a vision to create shared value with, and for, the millions of underserved small and medium enterprises (SMEs) and rural farmers. The Ant Group-backed company used Artificial Intelligence (AI) to reach customers with low balances, and thereby spark economic activity. With competition intensifying, this issue's Case In Point by Heli Wang and Lipika Bhattacharya looks at how MYbank can remain competitive while steering a path between profitability and social responsibility.

In Nigeria, Logy.AI is also harnessing technology to serve the less affluent. Using a digital screening tool that operates through WhatsApp, Logy.AI generates oral digital reports. As Vijaya Sunder M and Rithica Mamidi write, value is created by combining non-digital products and services such as dental care with digital media platforms like WhatsApp.

Digital technology also plays a role in national healthcare systems as its population ages. Using Singapore as an example, How Choon How explains a country's pivot towards prevention and early intervention, and how technology and digital initiatives can improve health outcomes. He also articulates the need to intensify sustainability efforts in national healthcare systems.

Hospitals hire a fair number of foreign healthcare professionals, and Yasmin Ortiga warns it might not be a sustainable practice in the long term. Countries like the Philippines are limiting the number of health professionals who can work overseas, while those who qualify for staff positions in Western countries are skipping places such as Singapore and Japan for the US and the UK. Policymakers must rethink the treatment of care workers as 'temporary' migrants to address the workforce shortage.

Also dealing with a talent gap is the manufacturing business, given the lure of tech start-ups and finance. Arnoud De Meyer, Kasra Ferdows, and Ann Vereecke argue that manufacturing can break out of its defensive mode, and build strategic strength instead. At the core of it all, it needs to embrace the increased data density of products and build tighter connections in the manufacturing process.

And we end where we begin: COVID-19 and geopolitics, specifically, the disrupted supply chains in the Asia-Pacific Economic Cooperation (APEC) region, and ways to repair them. Rebecca Sta Maria tells us how APEC is working on building connectivity in this part of the world, and focusing on flexibility, collaboration, and the environment.

Finally, you might have noticed this is the second issue this year after the first one in March. Asian Management Insights (AMI) now comes to you thrice instead of twice a year in March, July, and November. With the extra issue, we hope to introduce readers like yourself to the latest management issues, ideas, and innovations in the region. We welcome feedback and suggestions to make AMI an illuminating read.

2023 is half-done, and it has been eventful thus far. May the rest of the year bring relative peace, predictions of the world in permacrisis notwithstanding.

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Pursue Sustainability, Stay Paranoid in a Post-COVID World

Ho Kwon Ping, Founder and Executive Chairman of Banyan Tree Holdings, speaks to Havovi Joshi about making sure sustainability is more than just a buzzword, his optimism regarding Asia's growth in the future, and the need for youths to think differently about their careers.

Banyan Tree Holdings, with over 60 resorts and hotels in 23 countries, is renowned for its focus on driving sustainability in hospitality. But what does the concept of sustainability really mean to you? How do you push the adoption of sustainable practices across all aspects of the business?

To me, sustainability must be all-embracing; it is not simply physical sustainability, but also social sustainability and social justice. It means that at the end of the day, you run your enterprise in a manner that is sustainable for a very long time within a balanced equilibrium. In other words, the practice of sustainability must be holistic and consider all stakeholders, not only shareholders. So, if a company is making billions of dollars in profits, but retrenches thousands of workers when its share price begins to drop a little, one has to ask, "Is this regular cycle of hiring and firing sustainable for all stakeholders?"

We set up Banyan Tree 35 years ago and started on our sustainability journey way before it became a buzzword. I created what I considered to be our 'guardian values', which are about empowering people and embracing the environment. And we did this quite consciously. It was at a time when the debate in the West was seldom about peoples' livelihoods. The thinking was that if you could save an endangered snail species by not building a dam, that would be the highest priority–even though that infrastructure might be absolutely necessary for the livelihood of the people. It's a laudable cause but it's one-sided. There are many such cases where the classic dilemma pits economic development, social growth, and the physical environment against one another. Therefore, we consciously created the phrase "embracing the environment, empowering people". Today, we want to emphasise that it's not just about being carbon neutral; it's also about being respectful to your associates and creating trust between yourselves and them. It's about an enterprise which can sustain itself, generation after generation, in a balanced way which benefits all stakeholders. That, to me, is at the very heart of sustainability.

For example, for 35 years we have run a completely free kindergarten for all our associates in Phuket, Thailand which is paid for out of our profits. To me, this is as much about sustainability as the other good things that we're doing, such as planting trees and protecting the marine environment. Another example is that we're the only hotel company in China that insists on the service charge collected by hotels to be paid out to associates. In contrast, other owners want the associates to collect the service charge from the consumer, but then they keep it, as it boosts their revenue and profit figures. And that makes the fees for the management companies higher. So, every facet of the company has to be examined while driving sustainable practices, and as an economist, I can tell you that it's all about trade-offs and the allocation of scarce resources according to your priorities. I also want to emphasise that what we do is not all about sustainability or having a certain set of established practices. It's about holding true to your core values and examining every single practice, asking ourselves what is the right thing to do when one thing conflicts with another.

Moving on to the COVID-19 crisis, the effects of the pandemic on the hospitality industry were unprecedentedly challenging. What insights and learnings have you taken away from it?

Hospitality is a fragile industry, so any kind of event risk is detrimental to it, whether it comes from the industry itself, politics, physical climate, or public health crises. In my 30-plus years in this industry, I've gone through the SARS (Severe Acute Respiratory Syndrome) epidemic in 2003, political riots, financial crises, and many other events. So I have developed an attitude of "only the paranoid survive"–a phrase coined by Andy Grove, former CEO of Intel. As a result, I've always run Banyan Tree with a paranoid mentality, believing that the worst things can happen at any time. And because we've gone through some pretty bad times, when the COVID-19 crisis happened–which is clearly the worst crisis we've ever been through–we were relatively well prepared when everything went to zero and all travelling stopped. We did have to scramble to reschedule our debts, but we've been through that before with the financial crises. We had to retrench and, on top of that, we had to adopt voluntary pay cuts. But we've been through all that too. We've gone through previous pay cuts and established trust between ourselves and our associates–that if they take pay cuts, so would we, and the highest paid in the company get the highest pay cuts. I took zero salary, the CEO took a 75-percent pay cut, and this measure went all the way down the line.

Sustainability must be all-embracing; it is not simply physical sustainability, but also social sustainability and social justice.

But when you ask people to sacrifice, you also have to reward them when good times return. So, this year, we've given large appreciation bonuses. Our people are very happy. It's another reaffirmation that a crisis can, if properly handled, bring people closer together. What I've learned is that trust and the social compact–whether it is between a government and its citizens, or a company and its associates–is absolutely the most critical thing. Not popularity, but respect and trust.

Looking at Banyan Tree today, we've got 67 hotels and over 50 in the pipeline. We've also introduced a lot more brands, of which three were launched during the pandemic. We are also much leaner now. We've come out of the pandemic much stronger, but I've always said that hubris is the most dangerous thing, and it will bring down a company faster than anything else. The minute we think that we're riding high is the time to watch out.

How optimistic are you about Asia leading global growth for the foreseeable future, and what opportunities would this bring for Banyan Tree Holdings?

I am very optimistic about Asia and will approach this question from a civilisational point of view, as opposed to a purely economic or geopolitical point of view. From a historical perspective, the Western-dominated world only came about in the last two to three hundred years. This didn't happen purely because of bad things like imperialism or colonialism; it was largely due to factors like the role of science rather than superstition, including the rise of rationalism in the West, the separation of the church and state, and the acceptance of a rules-based order. This is why Western civilisation became dominant and it led to enormous benefits for the whole world.

But if you look at it from the perspective of a civilisation as old as India or China, which has gone through ups and downs and successes and declines over several centuries, you'd realise that these countries and South Asia as a civilisation are not going to be what it was over the last 100 years. And, in fact, I think part of what's happening in the world today is a high degree of unease in the Western world that the age of Western dominance is giving way to how things used to be 400 years ago, when there was no dominant civilisation. The world then had a number of competing and co-existing civilisations, all having their day in the sun, and we are now moving back to where there will be several major powers. Not surprising, it's been very uncomfortable for those who have been at the very top to give way to others. That said, at Banyan Tree Holdings, we can't plan based on a 200-year timeline.

> Think about your capabilities, the domain, or the area that you're interested in, because your career is likely to change so much during your lifetime.

It is ironic; for the first time in my life, when the rest of the world is falling apart, I don't see our business falling apart, and I'm trying to reconcile that and ask myself, "Is that really possible?" I just can't believe it because I'm normally a real worrier.

But we have had our best year so far, and that's largely because Thailand, one of our key areas of operation, has become a safe haven. We had thought that coming out of COVID-19, life this year would be really difficult because of China and US tensions, the Russia-Ukraine conflict, and so on. But the property purchases that we're seeing in Phuket have been quite unbelievable. A lot of middle-class Chinese and Russians are buying because the country is neutral towards them.

At the same time, with cryptocurrencies and banks falling apart, Asian banks remain very strong. Our major lender in Thailand has raised its interest rate from 1.25 percent to 1.5 percent, compared to 5 percent or so elsewhere. Because of the 1997 Asian Financial Crisis and the 2008 Global Financial Crisis, you'll find that banks in Singapore, as well as in Thailand, Indonesia, China–pretty much all of Asia–have been spared the turmoil in the West. From an economic point of view, the potentially looming financial crisis is likely to be contained largely in the West. However, I'm not assured that it's going to be all that unproblematic. It is entirely possible that another bank might fall, and the whole domino effect will affect us here in Asia.

We're probably in the most globally fragile period ever in the last 20 years. I've said to all my colleagues, when times are good, we'd better make as much money as we can, don't spend it, and store it away. One thing is for sure–a few years from now, something terrible is going to happen. What's it going to be? I can't see it right now.

Looking at the industry I'm in, I've long been talking about something called 'rainbow tourism'. Even up to about 30 years ago, tourism involved mostly people of one colour, moving in mostly one direction. It was mostly white, and it was moving mostly from the West to the East. But in the last 20 years or so, that has changed. Our clientele used to consist of 80 percent Europeans visiting Southeast Asia; today we're getting Indians, Arabs, Chinese, and everybody else. So that is a huge change, and much of it is buoyed by the fact that there are 600 million people in ASEAN (the Association of Southeast Asian Nations), 1.2 billion people in China, and 1.4 billion in India. They're part of the fast-growing middle class that has attained a certain level of affluence, and they all want to travel. And this also coincides with the rise of low-cost carriers and inexpensive accommodations. Travel is no longer a luxury. Its purpose is to see and learn about how other people live, especially in the post-COVID world. I'm very, very optimistic that travel is becoming a basic human yearning because people have reached the level where that yearning can be satisfied by their earnings.

I've always argued that the magical thing about the hotel industry is that it's a place where everybody comes together from all ethnicities and all ages. If you do it right, you'll create a real atmosphere in the hotel where people build a sense of who they are and who others are, and you learn from one another. Diversity must be our core value, not only for our associates, but also in terms of how we represent ourselves to the customer.

As an experienced leader who has been through several crises, what advice would you have for the youth today?

I'd say this to students–don't ever think about having a single career anymore. Instead, think about your capabilities, the domain, or the area that you're interested in, because your career is likely to change so much during your lifetime. I also tell the youth that they must not be discouraged if it takes time to get a job or if there is a layoff. Now, that's easier said than done for people my age who've created successful careers, but it's quite debilitating for a young person to be hired, and then be laid off. It's very distressing for a person to send thousands of job applications and not have somebody shortlist you. But what else can you say?

The other piece of advice I have for them is that you have to try a lot of gigs. I started out as a freelance journalist because I didn't want a 9-to-5 job. I had to pitch for jobs that would belong to the gig economy in today's world. I've also taken on all kinds of odd jobs. I've worked on merchant ships and done menial labour, not thinking that I want to stay there or having this romantic idea that it's a great thing to do, but because I thought I should try to understand what working life is like for someone who holds a blue-collar job. What I have found to hold really true in my life is that everything I did in the past has had an impact on my future. I used to hitchhike because I love travelling, and that led me to found Banyan Tree. When the late Steve Jobs delivered his 2005 Stanford University commencement address, he said that he spent only one semester at Reed College in Oregon where he took a class in calligraphy because he liked it. And then when he founded Apple, he started with the whole idea of having different fonts for the computer because he liked calligraphy. Not that computer fonts are revolutionary, but it's another demonstration that everything that you are is a compilation of what you were before.

I would tell the youth today that even if you don't know what you're going to do, do something, because you will learn along the way. Don't sit at home and mope. Get a job for a lark. Do anything you want to do because it will build you up as a person. Never feel sorry for yourself; never feel that the world owes you something. You go and make it. You just have to make it. And that spirit, I believe, is a very strong spirit. AMI

> I would tell the youth today that even if you don't know what you're going to do, do something, because you will learn along the way. Don't sit at home and mope.

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Where the World is Heading in 2023 and Beyond

The global economy is showing resilience, despite strong headwinds. Geopolitical uncertainty remains high, while the mounting threats from climate change call for more urgent global action.

by Simon Baptist

Given the turn of world events in 2022, it is little wonder that "permacrisis" was the word of the year according to the editors of the Collins English Dictionary. Meaning "prolonged period of instability and insecurity", it sets the stage for us to confront the difficulties the world faces in 2023, and most likely even beyond. Russia's invasion of Ukraine has become the most significant land war in Europe since the end of the Second World War. In addition, it has not only heightened the risk of nuclear escalation to a level that the world has not experienced since the 1962 Cuban Missile Crisis, but also triggered the most comprehensive sanctions regime in recent memory. As if things cannot get worse, soaring commodity prices have driven inflation to its highest across the globe since the 1980s, posing the most substantial macroeconomic challenge in today's financial landscape.

In this article, I first offer a thumbnail sketch of the global growth picture in 2023, particularly that of Asia, before I elaborate on some major ongoing developments and their effects. China's post-zero-COVID reopening will support the economy, but the growth rate will decelerate in the medium term. Challenging business conditions in the country, alongside worsening geopolitical anxieties amid rising US-China tensions, will encourage investment diversification among multinationals. Meanwhile, the high cost of borrowing will somewhat deter investment. Finally, I look at how the world addresses complex questions on the green transition, and the major implications it will have for governments, economies, companies, geopolitical alliances, and society at large.

THE WORLD IN THE SECOND HALF OF 2023

Global economic growth will slow sharply in 2023, reflecting persistent headwinds stemming from the ripple effects of the war in Ukraine, as well as high inflation and rising interest rates. The global economy is expected to grow at around two percent in 2023, measured at market exchange rates, which is substantially higher than that for a typical recession year, yet it is still some way off the three-percent growth experienced in an average year. That said, the world economic outlook is brighter than it was at the end of 2022, owing in large part to China's post-zero-COVID reopening.

In the Asia Pacific region, India will be the fastest-growing big economy this year, followed by China and Indonesia. Meanwhile, South Korea, Australia, and Japan are also in the top 10 of the Group of Twenty (G20) growth table for the year ahead (refer to Figure 1). Overall, Asia is a relative bright spot in 2023.

However, the overall picture is still weak, and growth in global trade will slow significantly this year, even if this is not universally true across Asia. High interest rates worldwide and low investor sentiment–stemming from geopolitical strains and global economic uncertainty–will depress market confidence. Economic slowdowns in the US and the EU will depress global demand until late 2023 as tighter credit conditions discourage household and business spending. Slowing global demand will also be a constraint on Asia's growth in 2023. The trade slump would be more significant were it not for the moderate strengthening expected in Chinese demand, which will provide some support for shipments in Asia.

This year, China's economy is projected to grow at 5.7 percent as a result of its reopening, thereafter growth will begin to decline again; this would be a slow rebound compared to that of most other countries coming out of lockdown.

GLOBAL GDP GROWTH IS STILL EXPECTED TO SLOW SHARPLY IN 2023

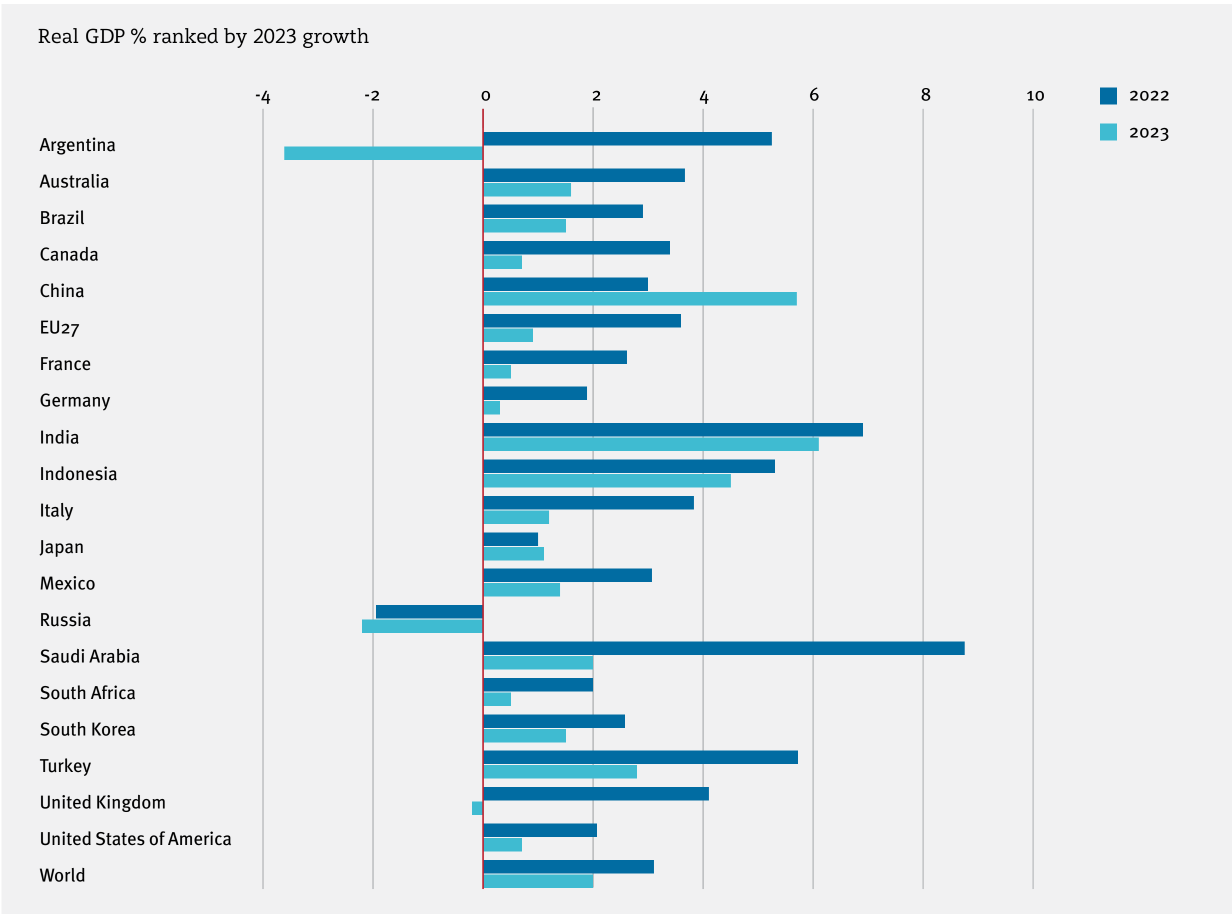

FIGURE 1 Source: EIU

CHINA'S POST-COVID RECOVERY

China is now an upper middle-income economy, especially when looking at its eastern provinces. Its GDP per capita is quite similar to that of many European countries, albeit the slightly poorer ones like those in Eastern Europe. China's growth story is an important one for the world (especially for the 21-member Asia-Pacific Economic Cooperation), although it is changing. If we ignore the ups and downs related to the COVID-19 pandemic, China's baseline growth rate is around four to five percent, and by the end of the decade, this will drop to just under three percent.

A three-percent growth rate is what we would expect of a developed market in a fairly good year, and it would not be out of place in countries like the US or Germany. However, when China hits this rate, it will not be as rich, and it will be a big step-down compared to its GDP growth rates in the past decade, which were more than or sometimes even triple of those of developed nations.

This year, China's economy is projected to grow at 5.7 percent as a result of its reopening, thereafter growth will begin to decline again; this would be a slow rebound compared to that of most other countries coming out of lockdown. The era of China as a high-growth economy is certainly over.

Why China will slow down

Three main internal factors explain why China's growth rate will slow in the coming years. First, its population is contracting. Earlier this year, Economist Intelligence Unit (EIU) found data that confirmed the population shrinkage in the country (refer to Figure 2). The workforce age group between 15 and 64 has been shrinking since 2015, and there has been an increase in the number of elderly. The fall in the population came after years of low birth rates, although the figures also reflect the impact of the pandemic–and associated economic downturn–on national fertility rates.

The second key drag on China's growth rate is falling levels of productivity. Historic evidence tells us that private-sector firms are, overall, much more productive and efficient than government-run firms. However, the Chinese government has been expanding the role of state-owned enterprises in the economy. Capital and workers have been reallocated from private to public firms, which has meant moving resources away from more productive activities towards less productive ones. All of this is reducing the overall productivity of the Chinese economy, as well as the output per worker and per unit of capital.

ALTHOUGH INFLUENCED BY THE PANDEMIC, THE DECLINE IN CHINA'S POPULATION WAS FORESHADOWED BY YEARS OF LOW BIRTH RATES

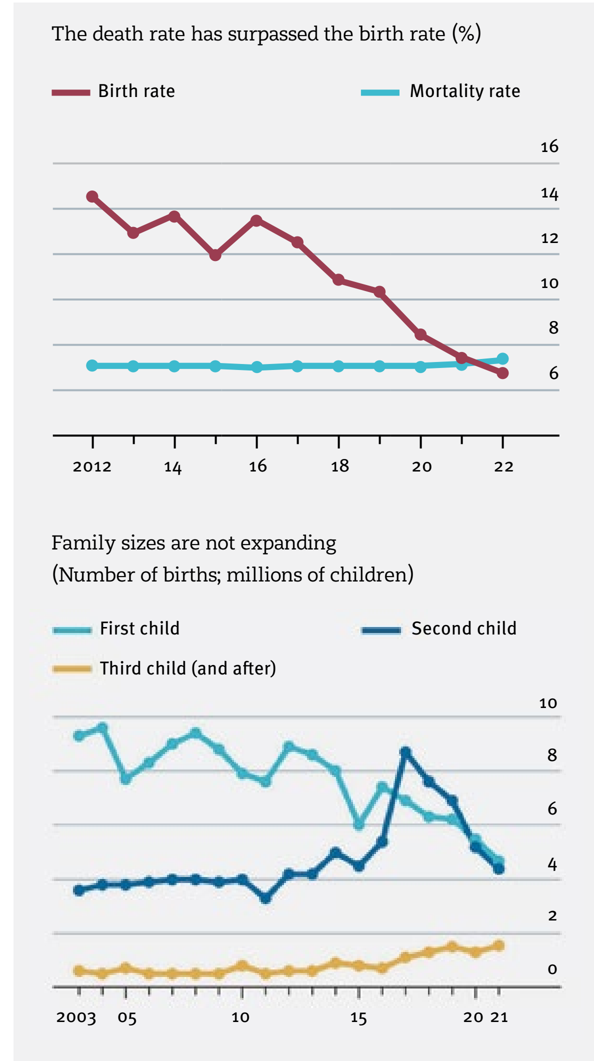

FIGURE 2 Source: National Bureau of Statistics, EIU

The third key drag is the end of the construction boom. China in the past needed a lot more houses, roads, and infrastructure, and as a result, the government was actively focused on construction. Despite how much money was going in, there was enough new economic activity to soak that up. However, that period has now ended as China's economy matures. Property firms are loaded up on bad debt, and there are big bubbles in the construction sector and house prices in the country. The year 2022 witnessed the broadest and steepest deterioration in China's property sector since 1998, with new home sales shedding RMB 5 trillion (US$744 billion) in value. EIU estimates that the property-related drag totalled 1.6 percentage points of real GDP growth in 2022. Notably, house prices in Beijing and Shanghai, compared to incomes in those cities, are the highest in the world, and that boom has run out of legs. Evergrande is the biggest property developer in trouble, but a lot of its peers are also running out of money, and the government has had to step in to provide support.

Investors are back to favouring traditional assets that would produce higher yields, explaining the 2022 cryptocurrency collapse.

Tensions in geopolitical ties and their impact on China's economy

China's growth is also affected by the deterioration in its geopolitical relationships. The country is experiencing tensions with Australia, Japan, the Philippines, South Korea, and the US and other nations, too. Russia is the only large country that still maintains close political relations with China. The two countries have planned a pipeline–Power of Siberia 2–to deliver natural gas to China via Mongolia, as Russia pivots away from Europe and re-orients its gas exports to Asia. However, the pipeline is unlikely to come on stream until the early 2030s (if at all). On balance, China's support of Russia has damaged its relations with several countries, particularly in the West. This has affected inbound and outbound investment opportunities, even if trade had remained resilient.

Semiconductor chips, a crucial input for almost all technology, are the most pertinent example of how the tensions are unfolding. China is reliant on US semiconductor technology, and on South Korean and Taiwanese semiconductor manufacturing, because what China produces domestically is much less sophisticated. At the same time, there has been a renewed push towards reshoring, and much of this is driven by US controls on exports of advanced semiconductor technology to China. This has halted the development and production of advanced chips in China, and the country is unlikely to achieve self-sufficiency in these chips in the foreseeable future.

Still, China is pouring substantial resources into its semiconductor sector, which should entail a degree of self-sufficiency in lower end semiconductor segments. In the next five years, China is likely to achieve cost advantages over international competitors in many mature technologies, including 4G chips used in telecommunications towers and phones, and analogue chips used in automotive and white goods. This will have consequences for global prices (which could fall) and global supply chains. Ultimately, China has a good chance of reaching the frontier of semiconductor technology.

JITTERY FINANCIAL MARKETS

Years of ultra-loose monetary policy by major central banks in the aftermath of the 2007-08 global financial crisis kept the cost of capital close to zero around the world. This in turn forced investors to look elsewhere for attractive returns, and large amounts flowed into speculative assets, fintech start-ups and shaky cryptocurrencies like Bitcoin, among others. However, with the rise in interest rates amid persistently high inflation, the cost of capital has gone up. Investors are back to favouring traditional assets that would produce higher yields, explaining the 2022 cryptocurrency collapse. Stock markets have also been falling; tech stocks and private equity in particular are bearing the brunt. Overall, the high cost of capital is likely to raise the hurdle for investment in new technologies.

The banking sector will have a challenging year ahead because of higher interest rates, resulting in an increasing number of loan defaults. There will be more distress in international debt markets, and countries will face higher costs on their borrowing. A number of countries such as Sri Lanka and Pakistan have already experienced financial crises. Bangladesh and Mongolia are two other countries in Asia that are also facing debt stress in the year ahead.

The recent collapse of three regional US banks, Silicon Valley Bank, Signature Bank, and First Republic Bank, as well as the emergency buyout of Credit Suisse in Switzerland, have triggered heightened investor uncertainty, raising the risk of bank runs and financial sector contagion. However, there are reasons that a financial crisis of the scale of what happened in 2007-08 is still unlikely. This year's bank failures were probably one-off events that can be attributed to these banks' overexposure to interest-rate-sensitive bonds or, in the case of Credit Suisse, long-standing management issues. A global liquidity crisis remains unlikely for now, given the commitment by the European Central Bank, the Federal Reserve, and other major central banks to establish liquidity facilities and credit swap lines with at-risk banks. Nevertheless, volatility is likely to persist in the coming months, notably as continued monetary policy tightening is prompting investors to re-evaluate where and how they allocate their assets.

Price pressures are slow to subside

Interest rates have had to rise because of high inflation. Since 2009, price pressures stood at zero to two percent, and most economic difficulties were related to overly low or even negative inflation rates. However, in recent years, supply chain disruptions, higher commodity prices, ultra-loose monetary policy, and recovery from the pandemic have all contributed to a sharp uptick in inflation in the US and the EU. Although central banks have resorted to aggressive interest rate increases to bring inflation down, price pressures have been reluctant to subside. For instance, despite falling headline inflation, core inflation (which excludes energy and food prices) continues to rise in the EU. All of this is likely to bring about a shift in how monetary policy works, and in the mechanisms through which central banks can control inflation. Global inflation is likely to ease from an estimated 9.3 percent in 2022 to 7.0 percent in 2023, losing momentum as global demand softens and commodity prices continue to ease back from their 2022 peaks.

Commodity security takes centre stage

The main driver of high inflation has been Russia's invasion of Ukraine in early 2022, which caused the prices of all major commodities to rocket, as the two countries have historically been large suppliers of both agricultural and refined commodities. Prices for most commodities are likely to remain high in 2023-24, compared with their 2019 levels. Against this backdrop, commodity security has moved to the centre of economic decision-making in a way not seen before the pandemic. In addition to food security, governments are concerned about gaining access to materials such as copper and lithium that are essential to the global green and digital transition. There is also a desire to enhance the security and resilience of commodity supply chains amid heightened geopolitical uncertainty. High commodity prices will add to the challenges facing green transition, with a major impact on developing countries.

EMISSIONS TRAJECTORY WIDENS BETWEEN THE DEVELOPED AND DEVELOPING WORLDS

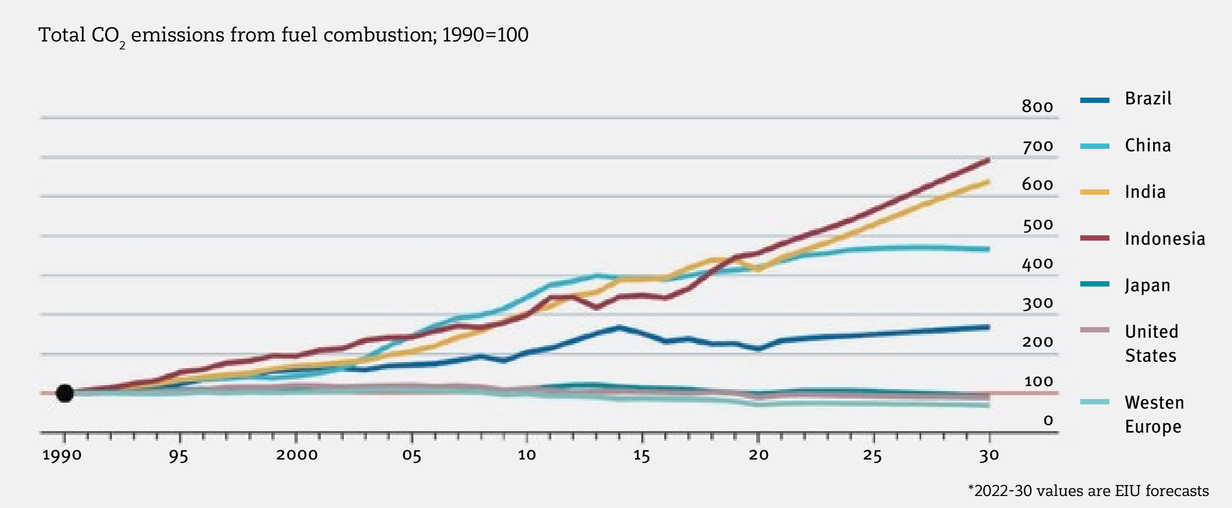

FIGURE 3

Source: International Energy Agency, EIU

THE GREEN TRANSITION

We are seeing quite a strong shift to a low-carbon economy in the developed world over the medium term, particularly in the EU. However, there is little change in the emerging markets. The global economy will approach a crunch point over the next decade where climate policy will either have to shift decisively towards adaptation, or there will be big changes in emerging markets, particularly in Asia.

Since the Kyoto Protocol was signed in 1997, emissions in developed countries have not grown very much at all, and in some cases have fallen. In most cases, they are now lower than they were in 1990, but they need to go even lower if the world is to meet net-zero targets by 2050. Meanwhile, the emerging world has seen quite a lot of emissions growth. By 2020, each of the three big Asian markets–China, India, and Indonesia–had roughly quadrupled their emissions since 1990 (refer to Figure 3). China's emission levels are just about peaking, but we expect Indonesia and India to increase their emissions very rapidly. Compared to 40 years ago, they now produce a lot more emissions. Net-zero targets are near impossible to achieve unless the big emerging markets start to reduce their emissions soon. However, in the near term, there is no political will in these economies to do so.

Rapid changes in climate policy will be required by the end of this decade if the world is to hit the 2050 goals. Energy systems take a while to transform, but power stations have lifetimes of 20 to 30 years: if we are not on course by 2030, then it is highly unlikely that we will get there by 2050.

THE TIPPING POINT

Geopolitics and trade are closely linked. Businesses need to watch geopolitical relations between major countries, their supply-chain linkages, and their major trade partners. Deteriorating US-China ties constitute one of the biggest fault lines in today's world. The two countries have been on a collision course for the better part of a decade, and there is little prospect of an improvement in relations. Tensions between China and the US (and the West) will remain high in the foreseeable future, and the pressure for third countries to choose sides between China and the US will emerge as a major trade and geopolitical theme over the 2020s.

As we exit the pandemic and with the ongoing war in Ukraine, we are in a new era of business and the global economy. Many trends, such as China's demographic shifts and the green transition, were already unfolding even before the COVID-19 pandemic hit the world. However, their pace has accelerated, and has become more salient. China's dramatic exit from its zero-COVID policy, the reshaping of commodity supply chains, heightened international tensions, and the green transition will be important factors to watch over the next decade. AMI

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WHAT REALLY WORKS BEST IN

The answer might surprise you.

by Rameshwari Ramachandra, Poorani Thanusha, Phat Ho Tan Phan, and Max-Ferdinand Scheichenost

Upon his promotion, the COO of a Japanese conglomerate realised something was seriously wrong. We asked him what he thought was not working, and it soon became apparent that there was a lack of an effective vision at the firm. As a result of the conversation, the COO gathered the company's leadership team to figure out how to align their teams. Although it wasn't easy, this transformational journey to unite the teams around the creation of a shared vision enabled the company to move forward successfully.

So why are vision statements important, particularly now? As companies recover from the pandemic to reorient and rally themselves to deal with risks from climate change, global conflicts, and technology breakthroughs, they are also encountering increased political, technological, and societal disruptions.[1] This unprecedented situation has clear and profound impacts on workplaces, particularly individuals' relationships with their jobs. About 70 percent of employees shared that their sense of purpose is defined by their work.[2] At the same time, 55 percent of employees claimed to be less productive and engaged as a result of remote working.[3] Unsurprisingly, these conditions contribute to worsening mental health, which impacts work performance and a company's overall strength. Unfortunately, most companies are not prepared to address these emerging issues. Research reveals that whilst most executives say they understand the importance of having a shared company purpose that people can rally around, the majority report that their companies are not operating in a purpose-driven way.[4]

We believe that a business will be best prepared to thrive within a fraught landscape if it is aligned to a clear and actionable vision. In this article, we address what works and doesn't work in visioning along with the attributes of a successful vision statement.

THE MEANING AND IMPORTANCE OF VISION

One can simply Google "company vision" and swap in a few words to make it fit their specific company. Better yet, just ask ChatGPT for some examples and then hang the most impressive-sounding one on the office wall, right? Many of us would have worked for/with organisations that operated this way. Some of them may have even held a half-day planning session followed by a corporate retreat to produce a vision. But such visions are often given little more than lip service at annual meetings and fail to influence on-the-ground operations before being ultimately tossed aside; its impact on daily operations is miniscule, if at all.

What is vision?

"A vision is where the company is going. It's what the future looks like if goals and intentions are accomplished and laid out to be the driving force of how the company defines success," said thought leader Jen Croneberger.[5] According to Mekong Capital[6], one of the first private equity firms in Vietnam, a company's vision is also an announcement of its paramount goals or objectives for the future, where the entire workforce directs their collective attention, energy, and resources towards the actions and breakthroughs required to reach them. In other words, the vision resounds in the company's communications, especially via its senior leaders when they ask questions, listen, and speak.

Whether that future is five, 10, or 30 years from now, the vision is a roadmap for the company when making decisions in accordance with its philosophy and objectives. It must strike a balance between being inspiring and meaningful, and yet be tangible and executable. A successful vision is neither too generic nor overly specific. Without a strong vision, a company can get distracted from its goals and drift into unproductive directions, ultimately losing its way.[7]

So how can we create a bold, aligned, specific, and measurable vision that becomes a roadmap for success?

THE THREE ESSENTIALS FOR CREATING A VISION

As consultants in this area over the past two decades, our view is that it is critical to adhere to three essentials when formulating a vision: a committed sponsor must lead the process of creating and fulfilling a vision; the sponsor and a core team inside the organisation, who have each connected to their own life purpose, must come together to co-create the organisation's vision; as part of this co-creating process, there must be courage to directly resolve certain key challenges and tough issues, especially among members within this core team, and build new levels of trust and collaboration.

Once the vision is co-created, it can be communicated and shared with the entire company. As part of cascading down the vision, the company must be willing and prepared to (re)organise its existing artefacts, such as its processes, systems, and structures like key performance indicators (KPIs) and incentives, so that the vision is consistently followed.

The right sponsors

While a successful vision requires inputs and alignment from the entire team, a core individual to direct the future of the company must be appointed as the sponsor. With the power to structure the company, determine its decisions, and allocate resources, this sponsor must give life to the vision and put in motion every step of its adoption and implementation.

There must also be reasonable assurances that the sponsor will be committed to the company for the long term. As we have far too often observed, when he or she leaves the company, for whatever reason, or can't devote enough time to it, the vision is liable to be ignored or abandoned.

Matching life purpose and organisational vision

We have observed that when people connect to who they really are, they can align fully to what their organisation really is, as well as its mission and vision. Once a sponsor and the key stakeholders realise their life purpose, the organisation's vision emerges as something far bigger than themselves, bigger than their co-workers, and bigger than the organisation itself. And when it is understood as fulfilling a grander mission, the company will attract the devotion and dedication needed to achieve its goals and objectives.

Seeing how one's personal purpose aligns with the company's vision will also allow the key stakeholders to orient themselves around it to establish measurable and actionable plans. Interweaving the two allows the leadership team to effectively address challenges and questions that arise, and any inconsistencies or gaps between where they are and where they want to be in the future. This is the space of creative tension where teams can fully explore and continue to consider taking different actions to realise the vision.[8]

But a sponsor can't be expected to remain in that role forever. Hence a strong vision is essential for a smooth transition to the next generation that will lead the company to pursue the same goals and objectives, even in difficult times.

A challenge that many family-owned businesses encounter is how to transition from the founders to the next-generation successor(s). Such is the case for VTHM, the largest Vietnamese-owned tile manufacturer with four factories and 2,500 employees in Vietnam (refer to box story).

VTHM'S VISION CO-CREATION EXPERIENCE[9]

In 2020, Vitto Hoan My Group (VTHM) created its Strategic Vision 2025. Developing the five-year vision was an opportunity to cement the company's transition from its founders to the next generation of leaders. They couldn't have predicted that the visioning process would also prove instrumental in their ability to navigate the marketplace uncertainties associated with the COVID-19 pandemic and ensuing lockdowns.

In this instance, the process started with the family that owned the business setting out its Nguyen Family Future 2050 as a transgenerational legacy. Thereafter, the commitments and values spelt out in its 30-year plan for the future were incorporated when co-creating VTHM's five-year Strategic Vision 2025 with its senior managers.

Nguyen Xuan Quang, Vice-Chairman of VTHM Group and one of its next generation successors, explained, "To create the 30-year future, we had to first alter our thinking paradigm from an individual awareness to a systems awareness before speculating about different future scenarios. When we saw that the future we really want is one high in human potential and strong on sustainable societies, our commitment to the 3Ps—People Development, Planet Renewal, and Progress Sharing—formed the basis of our vision, which was bigger than ourselves, our family, and our businesses. To include those at VTHM in this future and vision, we got our core management team to co-create it with us."

The co-creation effort became a rallying call for the owner-family and its company staff to also work on issues previously ignored. In the two years that followed its co-creation, their Strategic Vision 2025 enabled the company to invest in long-overdue elements that would support the transition, such as creating a new total rewards system; engaging international technical experts to elevate its production quality to international standards; reorganising two internal companies, Vitto Group and Hoan My, into VTHM; as well as adopting digital business process management and embarking on its ESG (environmental, social, and corporate governance) sustainability self-audit.

VTHM had previously tried to implement some of these measures but was unsuccessful, because people in the company were not on the same page. Chi Cao, a long-time member of the management team, explained, "In 2020, when the founders got the next generation to assume management

of the company, we were worried because we hadn't worked together and couldn't imagine how they would lead. But after the core management participated together in the Sustainable Success Programme[10], we chose to go beyond our counter-productive Business-as-Usual 'surviving' mental models and co-created the VTHM Strategic Vision 2025. We started to work together to address the gaps between where we were and where we wanted to be. We could see our shared ownership of the future was increasing and we recognised that we were more willing to work on things we had previously avoided. We could also see our next-generation owners working very hard, shoulder-to-shoulder with us."

In 2022, there were several positive signs that they were headed in the right direction, which was encouraging for the company's employees and management. While there were still gaps in the current reality vis-à-vis the vision, there was also progress and fulfilment.

Quang concluded, "I could never have imagined how much I would grow and continue to grow, or how satisfying it would be to serve as the sponsor of the transformation of our family and business. The journey was not, and is still not, easy. What gave me the courage to make tough decisions and trade-offs was the 30-year future that we created as a family first. The Nguyen Family Future 2050 gave me the strength to jump out of bed every morning, no matter what difficulties I had to face at work or in life. It was like I had this long runway to take off. It created the space to deal with current issues which seemed so insignificant when put against the future. In the past, those problems seemed to consume all my time and thoughts and appeared impossible to deal with... We are now advancing to a new phase, where we take our 3Ps commitments from the organisation out to our communities, moving towards the transgenerational shared future."

Building trust to move together

The example of VTHM's journey towards sustained growth illustrates the importance of a long-term sponsor at the core of the business. But it also reveals the necessity of key internal stakeholders aligning with the vision. Even without the impending transfer of leadership, the management team's involvement in the visioning process would have been necessary so that they could effectively support its frontline realisation, including cascading it to the entire workforce.

The co-creation process is not easy, however, as it often involves resolving past challenges and issues, especially among different people and departments. Many tough choices and difficult conversations must take place for the company's key stakeholders to move forward as one. It is more convenient and comfortable to continue with old habits, perspectives, and relationships, but such an approach makes it difficult to accomplish future goals and objectives.

Before its vision co-creation process, different management levels in VTHM had little trust or goodwill towards one another while organisational and operational differences among its four factories and internal organisations fostered conflicts. During the visioning process, these obstructions were brought up and discussed so that they could be resolved. The open communication that resulted in the breaking down of walls (silos) among groups and individuals not only made it possible for the VTHM Strategic Vision 2025 to be created, but also established the environment to successfully implement it.

THE HALLMARKS OF A SUCCESSFUL VISION STATEMENT

We have thus far discussed the conditions needed to produce a successful vision, but not what that vision statement should contain. While the co-creation process can be difficult, we must emphasise that the content of the vision statement itself can become fraught as well. Our analysis of various vision statements revealed a number of insights on how to avoid producing an ineffective one and instead create a more useful roadmap for success.[11]

Successful vision statements aim high and present seemingly impossible futures. Vision statements often make claims for levels of prosperity that may appear difficult to achieve. And yet, such lofty goals can rally the workforce to realise them. One could thus reasonably assume that vision statements should be purely aspirational and address people's emotions or experiences in a vague or abstract way. However, that has proven not to be the case and our research shows that vision statements that are vivid, result-oriented, measurable, and actionable have significantly higher likelihoods of success. In fact, a result-oriented vision statement is 5.4 times more successful compared to a vision statement that lacks a result focus. Studies support this claim with vivid statements being twice as successful as their vague counterparts (refer to Figure 1).

Measurable, actionable results must reflect breakthrough growth and differentiation

Vision statements have numerous purposes including providing clarity and focus when working towards a common goal despite challenges, thereby allowing for prioritising actions and outcomes when making decisions and creating a sense of accountability. To achieve these aims, the vision statement must be measurable. It needs to incorporate explicitly stated quantifiable metrics a company can look towards and assess progress against. It must also be actionable. This means that all employees can identify how their specific jobs align with the company's goals. This helps motivate them to commit to the goals by an exact, articulated date. Of course, to align with the vision, the workforce must first be able to visualise it. Thus, a vision statement should not necessarily be short, as many assume, but rather long enough to paint a clear picture of what the company will look like when it achieves its goals.

> It is more convenient and comfortable to continue with old habits, perspectives, and relationships, but such an approach makes it difficult to accomplish future goals and objectives.

WHAT FEATURES WORK AND DON'T WORK FOR A VISION STATEMENT

5 Features not to include in vision statement

Feature	Rationale
Employee Interest	No statistically significant impact to % on-track
Shareholders Interest	No statistically significant impact to % on-track
Financial Target	No statistically significant impact to % on-track
Abstract	Statistically reduce the % on-track
Being or Experience, without Results	Statistically reduce the % on-track

9 Features to include in vision statement

Feature	Impact Rate*
Result-Oriented	5.4x
Measurable	4.1x
Actionable	2.5x
Customer-Centric	2.3x
Upstream Driver	2.0x
Vivid	2.0x
Focused	1.9x
Breakthrough Growth	1.9x
Business Model & Differentiation	1.9x

$$^{*}\text{ Impact Rate} = \frac{\text{Expected \% on-track with feature}}{\text{Expected \% on-track without feature}}$$

FIGURE 1

Source: Mekong Capital Vision Driven Investing Model

Let's look at Company Y, a company in Mekong Capital's portfolio, as an example. In its vision statement, it included "ranking no. 1 in terms of service quality for each shipment and customers' confidence index for each shipment as measured by on-time delivery at 93.5 percent". While positioning itself as the best in the industry seems bold, the company backed it up with what being "no. 1" means in measurable terms. The result-oriented element of the vision statement was made actionable via its clear and repeated communication to all members of the company's workforce, who were able to develop ways to align it with their personal values and aspirations in accordance with a clear understanding of what was expected of them. Company Y thus succeeded in hitting 93 percent of its metrics.

In contrast, a company will have a difficult time staying on track with a vision statement that focuses only on an abstract idea about emotions or experiences without tangible outcomes. For example, a vision statement that aims to "bring happiness through offering a trustworthy working environment" is not result-oriented, actionable, or measurable, and can never be achieved because there is no way to measure it.

You exist for your customers

Until now, we have only discussed a successful vision in the context of the company that co-creates and implements it, but that doesn't mean it can ignore the company's customers. In fact, our data shows that companies with customer-centric vision statements are 2.3 times more successful than those with non-customer-centric vision statements (refer to Figure 1).

Placing customers at the centre of a vision and prioritising their experience forces a company to always have them in mind when making decisions, which in turn demonstrates its priorities and helps to build a strong brand reputation and foster customer loyalty. Company Y's vision references the need to meet "customers' confidence index for each shipment", and doing so enabled the company to reach its measurable goals.

A vision statement that includes specific financial targets such as revenue and company valuation may be measurable, but it is not effective as it signals that a company is focusing on the interests of its employees and shareholders, as opposed to its customers. While the vision should certainly drive upstream profits and losses, it is not the paramount endgame to measure success by. Thus, if you see yourself including statements like "$100 million revenue in 2025" in your vision statement, you must start over with greater emphasis on what drives performance such as the customer. If you don't, you will be on track to succeed in just five percent of your aims as our analysis reveals no evidence of a statistical relationship between financial targets and a vision being on track. Similarly, if you describe your company as "an attractive workplace where all members get to share the success of the company", your on-track percentage falls to zero.

Hence, we believe that a vision statement should aim for breakthrough growth and differentiation because it is result-oriented, measurable, actionable, customer-centric and upstream-driver-emphasised, vivid, and focused. Our data supports this while also revealing the pitfalls of visions that are abstract, lack results, prioritise employee and stakeholder interests, and stress financial targets.

THE ART AND SCIENCE OF VISION CREATION

The difference between visions that work and those that don't is more than a matter of time spent working on them. There is no magical countdown clock that signals when you've dedicated enough hours to the process and it is ready. Creating a transformative vision is a difficult, energy-intensive process that is best understood as both an art and a science.

No instruction manual can teach a sponsor and key stakeholders how to uncover their life's purposes, so that they can then observe how it naturally aligns with the company's goals and objectives. It is more akin to listening to the song playing in their head and turning it into an orchestra performance. Similarly, the dialogues and discussions needed to co-create the vision can't be completed according to formulae and equations. Rather, they require the grace and creativity needed to make works of art.

A vision statement must include a clear and precise purpose that involves addressing the customers' fundamental concerns.

But a vision statement is a matter of science as well. By underscoring breakthrough results that are measurable and actionable, it demands the type of specificity found in laboratory work. Likewise, a vision statement must include a clear and precise purpose that involves addressing the customers' fundamental concerns.

We realise we have outlined a difficult task indeed. You must be prepared to work as an artist and a scientist simultaneously to produce magic. That is a lofty goal, but like the best visions, aiming high is the best way to ensure success.

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Endnotes

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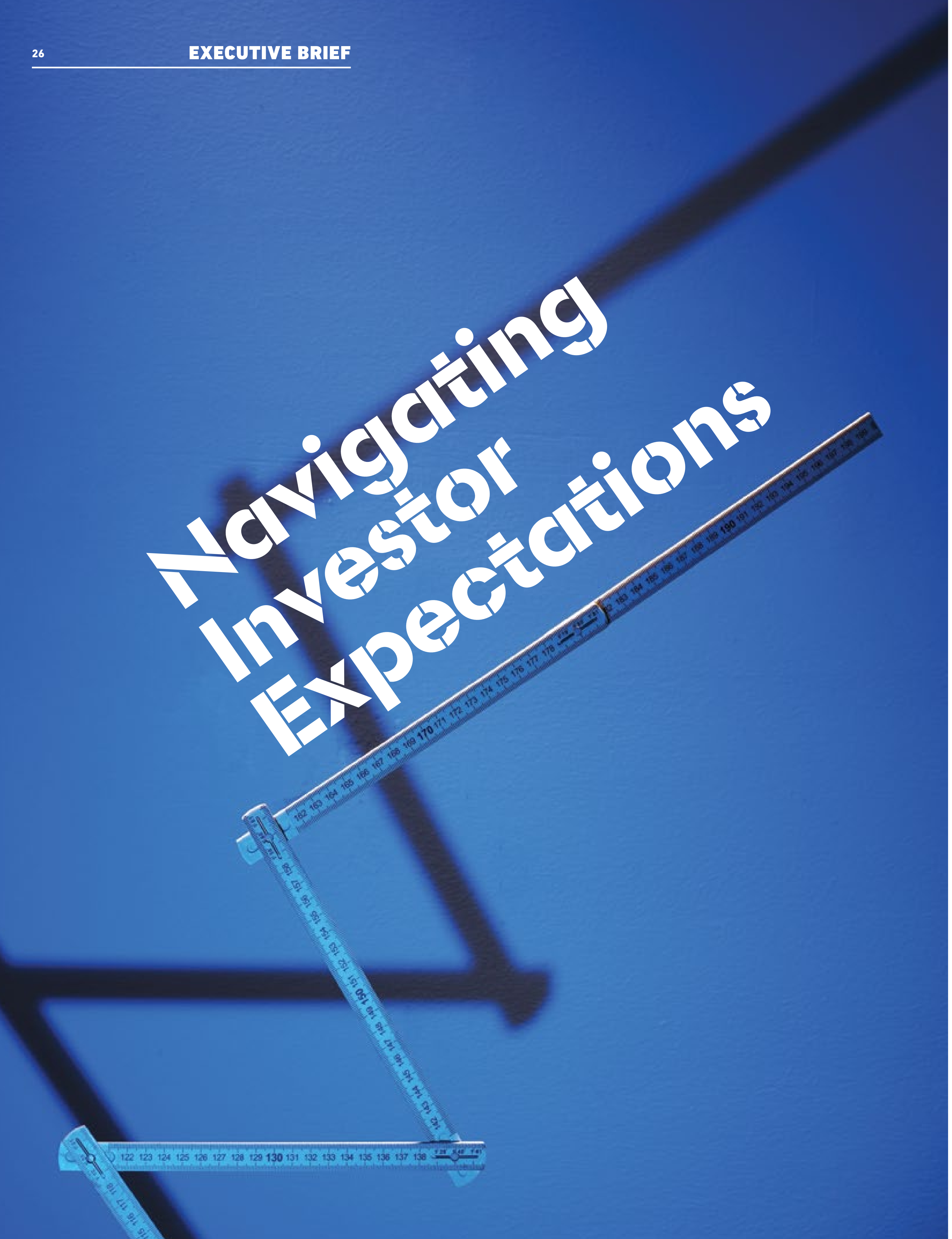
8 Robert Fritz, "The Path of Least Resistance to Become the Creative Force in Your Own Life", Ballantine Books, April 22, 1989.

9 The VTHM's Vision Co-Creation Process was facilitated by Talent Leadership Crucible as part of the family and corporate visioning and consulting initiative.

10 The Sustainable Success Programme was conducted by Talent Leadership Crucible since 2020 to provide a set of tools and practices for VTHM teams to move from a surviving state of performing to a thriving state of performing. VTHM's 150 middle managers and above have completed this programme and it is now being cascaded down to the next levels.

11 The 2022 analysis was completed based on samples of 16 vision statements from Mekong Capital's investee companies (since 2015), from which 65 key phrases were identified when assessing what does and doesn't work in vision statements.



Navigating Investor Expectations

Why start-ups need to speak the language of numbers.

by Yong Hsin Ning and Yvette Lim

The number of start-ups in Southeast Asia has grown rapidly in recent years, with a young, tech-savvy and digitally-connected population creating an ecosystem for them to develop and grow. Additionally, the increased access to technology and digital infrastructure has fuelled greater innovation and entrepreneurship in the region, and most governments have provided support and funding to spur entrepreneurial endeavours, especially during the COVID-19 period. For example, in Singapore, the government announced a S$300 million support package for deep-tech start-ups in 2020.[1]

Amidst the pandemic in 2021, start-ups grew rapidly and received abundant capital, with a surge in Initial Public Offerings (IPOs) and non-fungible tokens[2] or NFTs.[3] However, after the 2021 liquidity glut, start-up investors around the world became more cautious with their investments due to rising inflation, tightening money supply, and uncertain politics.[4] They became more selective in their investments, seeking out start-ups with solid business models, particularly founders who can unlock the potential of their businesses.

Intuitively, when investors look for evidence of founders' ability to execute, they rely on past performance. However, this works against early-stage founders because they may not have a track record in their current business. Therefore, they need to enhance their ability to clearly articulate the implementation strategy of their business model. This implementation strategy is manifested in the cash flow projection of the start-up, which represents the 'how' and 'when' of the business.

In this article, we explore why founders of early-stage start-ups often struggle to speak the language of numbers and how this can impact their ability to attract investment. We then discuss a multi-pronged approach to changing the behaviour and mindset of founders which can lead to sustained advantages beyond just securing funding.

WHY START-UPS (STILL) DON'T SPEAK THE LANGUAGE OF NUMBERS

From our experience, most founders have no difficulty presenting a compelling narrative about the 'why' and 'what' of their business idea. This is to be expected as founders are passionate about showcasing their business potential to investors. However, we find that the commercial information underlying these pitches often does not align with the stories being told. As a result, investors quickly pass on such opportunities.

There are three reasons for this persistent misalignment between the story and numbers.[5] First, many founders, especially those who are not comfortable with numbers, believe that developing financial projections is complex and time-consuming. Second, they may also find it a cumbersome process because there is little or no historical data to rely on for projecting revenues and expenses. This is especially so for early-stage start-ups which often operate in an environment of unpredictable market dynamics and customer preferences. Finally, they may dismiss financial projections as unimportant because the figures are mostly based on assumptions. As a result, they may believe that they just need to tell a good story to secure funding, and that a well-thought-through implementation plan as represented by financial projections is secondary.

Consequences of ignoring the numbers

When founders fail to present credible and well-thought-out financial projections to investors, not only are their chances of receiving funding reduced significantly, but they are also perceived to be unprepared and lacking the necessary skills to become successful entrepreneurs. That said, does feedback from investors help start-ups improve their pitches over time? Sadly no, as we also realise that many start-ups do not have the opportunity to receive specific and constructive feedback from investors that could help them improve. This could be due to the investors having limited time or resources to provide detailed feedback, or simply not wanting to dampen the founders' enthusiasm. As a result, the start-ups may make the same mistakes over and over again, further reducing their credibility.

This situation also hurts investors. In an ecosystem filled with unqualified start-ups, investors waste time and energy evaluating pitches that do not lead to successful investments. This not only reduces the efficiency of the investment process but also increases the opportunity cost of time and resources.

How can the problem be addressed, and who in the start-up ecosystem is best placed to address it?

INFUSING THE LANGUAGE OF COMMERCIAL VIABILITY INTO A START-UP'S DNA

Authors Chip and Dan Heath highlighted that the way to change one's behaviour can be distilled into three key principles.[6] For the sake of simplicity, we shall call them 'Head', 'Heart', and 'Hand'. The 'head' strategy refers to the use of logic and facts to convince people when founders do not understand why there is a need for change, or when they feel overwhelmed by the perceived magnitude of change relative to what they may be capable of coping with. The latter may stem from founders receiving too much information without guidance on how to use them for decision-making. The 'heart' strategy covers techniques that appeal to intrinsic motivation or fears to create behavioural change. Finally, the 'hand' strategy relies on modifying the environment to facilitate the desired change.

Next, we elaborate on how the 'Head', 'Heart' and 'Hand' principles can be applied to address the resistance of early-stage start-ups and gradually get them to change their behaviour.

'Head' strategy 1: Help start-ups understand why investors are interested in the numbers

Investors looking at early-stage start-ups are not necessarily concerned with the exact numbers in the financial projections. Instead, they want to understand the thought process behind how the start-up plans to implement its business model. For example, if a start-up wants to expand into different countries, the investor would be interested to know the assumptions and rationale behind its growth projection. This includes how the start-up plans to target different customer segments in each country, and the strategies to reach them. Investors also want to know how the start-up plans to allocate resources to make this growth happen, since different strategies carry different costs and risks. For example, there are different costs and risks implications when carrying out market penetration through leveraging on local distributorship channels versus those for setting up local operations.

When start-ups can clearly articulate their assumptions, it is easier for investors to give them specific feedback and advice. This helps the start-ups better understand the areas where they need to modify their business model to appeal to other investors.

'Head' strategy 2: Help start-ups understand what investors are looking for

Many early-stage start-ups associate 'numbers' with multiple sheets of complex financial projections including income statements, balance sheets, and detailed sales data. Whilst these may be required at a later stage, providing them at the initial stages would be too much, too soon. Instead, they should make use of numbers to communicate a strategic story that aligns with their pitch.

Such a story should comprise the following four elements: evidence of traction achieved by the business, the vision of the growth trajectory, recognition of key risks (and associated mitigation strategies), and potential returns for investors.

Evidence of traction

Investors want to see evidence of traction because it reflects the ability of the founders to execute their plans. They can also obtain evidence about the viability of the business model and product-market fit through the insights gained.[7] Understanding the capability of the founder and assessing the viability of the business model are ways for investors to de-risk their investment.

The nature of the traction can be financial or otherwise, depending on the nature of the start-up and its stage of evolution, as well as the investment criteria of the investors. Start-ups can communicate evidence of traction quantitatively through various ways like the number of sign-ups from free and/or paid users, Net Promoter Score (NPS),[8] the number of signed Memoranda of Understanding (MOUs), and the quantum of investments already made by other angel investors.

For example, in the case of Careercake, a Cardiff-based online career learning platform that was eventually acquired by Irish firm SocialTalent, the founder chose to focus on measuring retention and engagement at the early-stage of the company as a demonstration of traction. Initially, the renewal rate was as high as 100 percent, but it eventually settled at 80 percent after the start-up fine-tuned its strategy to focus on customer segments that were a better fit.[9]

Vision of growth trajectory

If traction represents the past and present, then the growth trajectory shows the story of the pathway to the future. Here, investors are interested in two things: the size of the market and the corresponding growth potential of the business over time, and the market penetration strategy. Start-ups should provide representations of the market potential and their strategy to grow the business, both at the beginning and over time.

Our experience tells us that start-ups typically depict their growth visually through charts that show a progressive increase in revenue over a period of time. However, it is unclear what drives the growth. When growth drivers are unclear, investors may dismiss the representations as not credible.

To illustrate the misalignment between the growth trajectory and growth drivers, we use the example of a fictitious start-up called Silver Guide.

Silver Guide is an Artificial Intelligence (AI)-powered travel platform that connects affluent senior travellers from the US and Europe with local tour guides in Southeast Asia. Its target market seeks personalised and authentic itineraries conducted at a comfortable pace that is suited for the elderly. With a strong presence in Singapore, Silver Guide plans to expand to Malaysia, Indonesia, Thailand, the Philippines, and Cambodia over the next five years, with a target of 500,000 bookings per year by the end of Year Five. Based on the current traction, Silver Guide has approximately 1,000 inbound bookings in Singapore per year, primarily from Europe. In its pitch to investors, the year-on-year revenue growth is projected to be 20 percent based on the expansion plan, which looks very rosy. The strong growth is justified by strong retention strategies that proactively engage existing customers to continue using the platform.

However, upon closer scrutiny, the projected expenses dedicated to marketing, sales, retention, and referral remain consistently low at about five percent of total revenue each year. This begs the question of how Silver Guide intends to drive revenue growth with low investment in customer acquisition and retention. Furthermore, the technology spend as a percentage of cost remains almost constant over the five years, indicating that there would be no further investments to support the expansion and keep competition at bay.

In this example, although Silver Guide has clearly articulated its growth roadmap, there is misalignment between its growth aspirations and projected costs. This will raise concerns amongst sharp-eyed investors about its ability to deliver the promised returns. Therefore, start-ups should learn to correlate growth with credible projections of relevant growth drivers.

Recognition of risks

Projections of growth are, after all, guesses at best; there will always be unforeseen circumstances that impact the commercial viability of the business. For example, as Silver Guide expands to new countries, it may not have the same level of market knowledge as it does in Singapore, resulting in higher marketing costs and lower revenue growth. It may also face operational challenges such as language barriers, logistical issues, and the hiring and training of local staff. These challenges could reduce revenue growth and raise operating costs.

Investors would want to know if the founders have considered the impact of such potential risks and developed risk mitigation strategies. To prepare for these questions, founders should perform sensitivity analysis to stress-test the robustness of their business model. Whilst

Investors looking at early-stage start-ups are not necessarily concerned with the exact numbers in the financial projections. Instead, they want to understand the thought process behind how the start-up plans to implement its business model.

it may be difficult for founders to comprehensively consider all risks, they can surely simulate the financial impact of key identifiable ones. For example, they can simulate scenarios to test their business model's resilience to potential setbacks, such as a 50-percent increase in manpower costs or a 50-percent decrease in expected revenue. These simulations are useful for internal risk management and a demonstration to investors that the team is prepared to handle potential setbacks. It builds trust and shows the founders' credibility and competency as entrepreneurs. This is especially important, given the overconfidence bias that founders are prone to.[10] Demonstrating awareness of the impact of risks gives investors the confidence that the founders are mature enough to challenge their own assumptions.

Potential return on investment

Many founders make the mistake of focusing only on the quantum of investment they need from investors, without articulating the potential returns for the latter. They may overlook the fact that fundraising is a competitive process with many other start-ups vying for the same source of funds. Therefore, it is important to communicate credibly to investors "what's in it for them".

There are various types of investors who invest in start-ups, such as private equity investors, angel investor groups, venture capital firms, and strategic corporate partners. These investors have different expectations of what they want from the start-ups, including different levels of risk and potential returns.[11]

Hence, it is crucial for start-ups to know the potential returns their company can deliver when seeking investors. This knowledge helps in identifying the right investors to approach and increases the chances of obtaining funding. A mismatch between what a start-up can offer and what an investor expects can lead to a waste of time.

What if making mistakes is perfectly acceptable? What if the purpose of the financial projection is not solely to obtain correct answers, but to reveal questions that need to be addressed?

'Heart' strategy: Help start-ups overcome their fear of numbers

Developing cash flow projections for early-stage start-ups can be a daunting task, especially for those without a background in accounting or finance. The fear of making mistakes or having one's ability doubted can discourage many from attempting to formulate these projections.

However, what if making mistakes is perfectly acceptable? What if the purpose of the financial projection is not solely to obtain correct answers, but to reveal questions that need to be addressed?

These thought-provoking questions challenge the traditional mindset that the founders must already be highly competent in financial literacy, and instead encourage them to embrace their mistakes and uncertainties as a natural part of the process. Founders need to understand that the most important takeaway in the process of developing the cash flow projection is not about the actual numbers but surfacing the logic behind the assumptions. For example, the simple exercise of estimating revenue requires founders to critically examine their assumptions of market size and average spend per customer. They would need to address difficult questions like: What would be the beachhead segment they can target which would give them a high chance of success? How much would such customers spend? How would these numbers evolve over time?

This 'heart' strategy that reduces the founders' fear factor can help them overcome their hesitancy to tackle financial projections and instead approach them as an opportunity for growth and learning.

'Hand' strategy: The role of accelerators and investors

The final question concerns who is best positioned to educate and influence the founders. This leads us to the 'hand' strategy, which involves embedding the enablers of behavioural change within the environment to make it easier for founders to make the necessary changes. Here, we highlight the role of accelerators and investors.

Accelerators play a crucial role in helping start-ups navigate the complex world of entrepreneurship, and one key area where they make a significant impact is in institutionalising the language of commercial viability. This means that rather than treating the development of financial projections and analysis as a one-off event, accelerators can incorporate financial literacy into their programmes from the very beginning. They can support and influence start-ups to pay more attention to the commercial viability of their business by requiring them to provide simple

Founders need to understand that the most important takeaway in the process of developing the cash flow projection is not about the actual numbers but surfacing the logic behind the assumptions.

revenue and cost projections as part of their application process, in addition to their pitch deck. This sends a clear signal to start-ups that they must consider commercial viability even when the business is in the early stage of development.

This also allows the accelerators to provide targeted support for the start-ups based on the quality of their cash flow projections. Accelerators can use financial projection data as a guide to track the progress of the start-ups, helping them make informed decisions about their growth strategy and improving their commercial viability. By requiring cash flow projections throughout the accelerator programme, accelerators can ensure that start-ups gain a deeper understanding of the cash flow implications of their strategies and decisions, thereby preventing unrealistic projections or stories that do not align with their financial data.

The benefit of institutionalising the language of numbers extends to investors. By providing a standard structure for cash flow projections that communicates the business model strategically through numbers, investors can undertake the initial screening of all start-ups in a consistent manner, saving them time and resources while ensuring comparability. Institutionalisation of the language can lead to greater transparency and more informed decision-making, ultimately resulting in a better match between investors and start-ups, thus improving the success rate of such entrepreneurial ventures.

EVOLVING FROM FOUNDER VERSION 1.0 TO 2.0: A MINDSET SHIFT

Most founders will have more questions than answers when they first start making projections. However, over time, they will learn to refine their business models and projections as they obtain more information and insights. They will also gain clarity on how business decisions and judgements affect the bottom line, which will help them prioritise their effort and resources on activities that bring the greatest impact.

As start-ups go through the process of continuously reassessing their financial projections, they may notice subtle but crucial shifts in their way of thinking. First, they will realise that there are different routes to achieving their business objectives, not just the one that was initially projected. They will also become aware of the different business drivers that can potentially impact profitability. Second, they will become more perceptive about how changes in their assumptions could affect their initial projections. Their ability to rapidly evaluate whether these changes will have a positive or negative impact on profitability will improve. This mindset can help founders make more informed decisions about the strategies to pursue, resulting in a higher probability of success and long-term viability of their business. AMI

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CHINA'S MYbank: Creating Shared Value

Online banking has delivered financial inclusivity and profits, but has it also created shared value?

by Heli Wang and Lipika Bhattacharya

In April 2022, there was a sense of optimism at MYbank, an Ant Group-backed company, which had reported year-on-year growth of 32 percent for the first quarter, a significantly higher number than that for the same period in 2021. Moreover, its total loans and advances for the first quarter was a staggering US$30 billion[1].

Established in 2014 following a change in regulation that allowed selectively-licensed private banks to operate in China, MYbank had created a successful business model, using technology as its magic wand. It operated purely online, and largely focused on small- and medium-sized enterprises (SMEs) and rural farmers, who were hitherto unserved or underserved by formal financial institutions.

Banking had traditionally paid more attention to high-net-worth individuals (HNWI), and concentrated on having fewer accounts and more one-on-one relationships. However, MYbank had decided to direct its attention to technology to enable quick transactions, handle a large volume of low-income consumers, and lower operational costs to create a sustainable business model. Its strategy was to use automation, standardisation, and Artificial Intelligence (AI) to reach a very large number of customers with low balances.

It was the large volume of such customers without access to formal financial lending that proved to be the ticket to MYbank's success. There were many examples of inclusive finance models implemented globally, but very few could match the scale of MYbank. For example, Bangladesh's Grameen Bank, the pioneer in inclusive finance, had 9.33 million members in 2020 after more than a decade of existence, while MYbank had more than 70 million users by 2021, only six years after its inception.[2]

However, in 2022, the contracting Chinese economy posed a concern for MYbank's future growth. Separately, competition in the online banking market was cut-throat, with competitors like Tencent-backed WeBank encroaching into MYbank's market space. Additionally, the COVID-19 pandemic had negatively affected its target customers. In response, MYbank cut interest rates for its microloans, while also using strategies like cost optimisation and economies of scale to offset the impact of interest cuts on profits.

How could MYbank's business model allow it to remain competitive amidst market pressure while delivering shared value? This was a classic scenario where a trade-off needed to be made between profit and social responsibility.

TARGETING THE FINANCIALLY INVISIBLE

In 2014, the China Banking Regulatory Commission (CBRC) introduced new regulations to promote inclusive finance and allow privately-owned organisations to operate in the banking sector to serve the low-income population. The concept of inclusive finance had originally emerged from the analysis of challenges posed by the unequal distribution of wealth across the world, more or less in line with the 80/20 Pareto principle. In China, the equation was similar–traditional banking institutions were focused on the HNWI customers who made up 20 percent of the population but controlled 80 percent of the country's wealth and resources.[3] The remaining 80 percent of the population, which included 45 percent of the country's population who lived in rural areas, were marginalised and found it harder to get formal credit access.[4] This was partly due to the high overhead costs of branch banking which forced banks to focus only on market segments that offered the highest margins. Besides, only one third of the population in China had credit records while the rest were 'credit-invisible', and loans from rural areas accounted for only 23 percent of the country's total loan balance.[5]

However, smartphone penetration rates in China were high. By 2015, 49 percent of the country's population were active Internet users, and SMEs and small consumers were already engaging with e-commerce platforms like Alibaba, Taobao, and T-Mall. Promotion and sales of agricultural products on the Internet using e-commerce had also become commonplace.[6] Such data encouraged MYbank to look at the possibility of introducing mobile-based banking products for small value customers.

MYbank's '310' MODEL

In 2015, MYbank established an online-only platform that enabled SMEs to open accounts and apply for loans quickly and easily, without the need for extensive paperwork or physical branches. Big data and AI were used to assess the creditworthiness of applicants, allowing for quicker and more accurate lending decisions. It also harnessed technology to streamline its operations, reduce costs, and provide faster and more efficient services.

These technologies were clubbed together with an internally-developed lending model called the '310' model, which included more than 100,000 risk profiling metrics and 100 credit risk models specifically suited to SME and individual lending. It took just three minutes for a customer to apply for a loan, demanded zero collateral, and the loan could be approved within one minute. The model was developed through iterative testing and refining, and assessed loan applications using built-in algorithms to weigh various risk parameters like limited credit histories, unreliable income streams, and default risk. It also used the data of consumer repayment records from e-commerce platforms like Alibaba and Alipay, smartphone payment records, registered online customer profiles, e-commerce transactions, local government records, and insurance records to assess loan applications. The '310' model incorporated algorithms for monitoring loans and their risk of default using online tracking methods, and could assess monthly sales of small businesses and predict their repayment patterns.

Although the loans were extended without any collateral, the interest rates charged were competitive, ranging from six to 14 percent.[7] '310' was profitable, partly because of lower operational and delivery costs, generating net interest margins of three to five percent. This was considerably higher than those of China's biggest commercial banks.[8] For example, a traditional bank spent about RMB 2,000 (US$294) to process a micro loan, whereas MYbank's average loan cost was around RMB 2.30 (US$0.34).[9] Additionally, the bank's return on equity (ROE) was at 13.4 percent, which was slightly above the 13.1 percent average of traditional banks in China.[10]

The simplicity and ease of use of the '310' model helped boost loan approval rates, which quickly rose to four times those of traditional lenders (which typically rejected 80 percent of SME loan requests and took at least 30 days to process the applications), and also helped limit MYbank's average non-performing loan (NPL) ratio to about one percent.

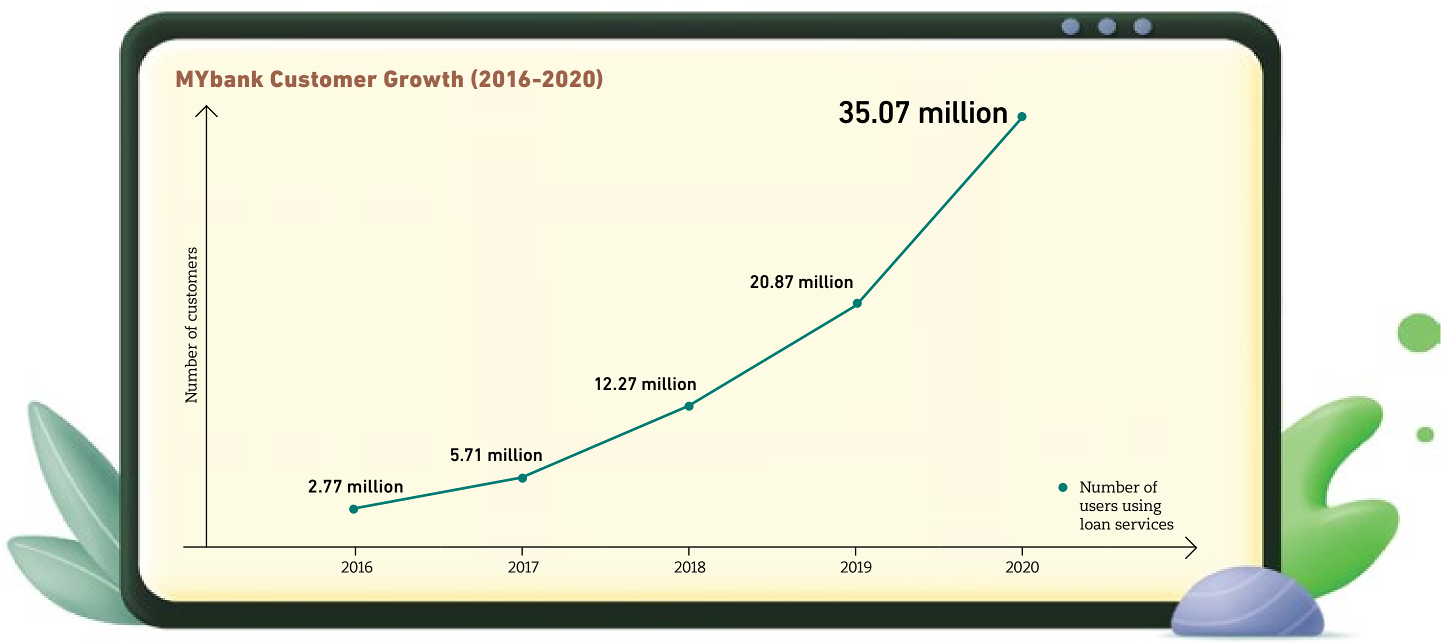

FIGURE 1

Source: Ant Group

It took just three minutes for a customer to apply for a loan, demanded zero collateral, and the loan could be approved within one minute.

Providing SME support

By 2020, MYbank was able to service over 35 million SMEs (refer to Figure 1). The duration of the loans, on average, was approximately up to 90 days, and customers could flexibly borrow money and pay back the loans on a rolling basis. The average loan amount granted was RMB 34,000 (US$4,850). Analysis of the loan data revealed that about eight percent of the loan applications were submitted between 11 pm and 4 am, when traditional banks in China were closed for business, reflecting the need for 24/7 financial access by small entrepreneurs. The bank also tried to support green business practices by applying preferential interest rates for SMEs that implemented green initiatives, and such tracking of green businesses was also built into the automated loan approval process.

MYbank captured almost half of the SME market in China, and about 78 percent of these customers were first-time borrowers and 40 percent were female-run SMEs.[11] The bank's success in the SME market became a strong source of motivation for other Chinese banks to boost their SME lending. Soon, state-owned enterprises like China Construction Bank increased their small business lending, while private firms like Tencent Holdings and Ping An Insurance Group started to introduce similar services for SMEs.[12]

Promoting agriculture through farmer loans

MYbank also extended loans to farmers in support of the state agenda to promote agriculture as the government was concerned that the country, which was the world's largest food importer, did not produce enough food to meet domestic consumption. Geographically, only 13 percent of the total land in the country was arable, but this came under constant pressure due to heavy industrialisation and urban encroachment. The Chinese government had introduced strict farmland protection measures and drawn 'red lines' to protect the country's farmlands from industrial encroachment.[13] Over the past decade, China had tried to ramp up its own food production to reduce its dependency on imports by introducing higher-yield grains, improving farming techniques, and implementing privatisation policies to incentivise farmers. However, the country still lagged in yield and food safety relative to developed countries with robust agricultural sectors. In addition, ageing rural demographics, environmental degradation, climate change, groundwater depletion, heavy metal pollution, and a lack of technological adoption also posed challenges to its agricultural sector, which employed around 350 million people as of 2021.[14]

MYbank's farmer loans were therefore considered a boon, as they could provide the much-needed capital boost to the ailing sector. The loans were of short duration–around 90 days like that for SME loans–and delivered in collaboration with numerous other financial institutions that served as sources of capital.[15] Farmers could borrow and repay at any time, and interest was calculated based on the duration of the loan. There were no penalty interest charges or fees for early repayment and the credit limit was restored in real time once the repayment was made.

To deliver these farmer loans, MYbank combined its '310' model with an in-house AI solution called 'Tomtit', which used satellite remote sensing and image recognition to grant and monitor loans. To apply for a loan, farmers could download the MYbank app on their mobile phones, authorise the application for information inquiry, select their farmland plot (also known as the act of 'circling'), and then receive the loan within a few minutes. As a risk control measure, Tomtit checked for pre-existing records of the applicant on other platforms like Alibaba's Taobao and Alipay for an accurate understanding of the customer's financial situation.

Using publicly available satellite images and images provided by farmers, climate data, industry patterns, land registration data from government agencies, and information about factors affecting crop price and expected crop growth, Tomtit could estimate the yield and output value of the selected land, and accurately evaluate risk. This unambiguous risk analysis method provided reasonable levels of credit and an appropriate repayment plan to farmers based on the risk scores generated. As the borrowing cycle was short, users were less sensitive to interest rates and more concerned about whether the loan amount was sufficient to meet their needs. After loan disbursement, Tomtit constantly monitored the farmlands using satellite images to assess the growth and condition of the crops, and predict any likely risk of loan default. The satellite images were updated in real-time in a cycle of five to seven days for MYbank to make precise assessments, and proactively manage risks.

CREATING SHARED VALUE

Through its banking services, MYbank tried to create shared value for all its stakeholders and fulfil its corporate social responsibilities (CSR) while addressing the triple bottom line of people, planet, and profit.

For example, in 2020, MYbank implemented a series of measures to help SMEs overcome the economic impact of the COVID-19 pandemic, including waiving or lowering interest rates. It also collaborated with 100 banks to support SMEs as they resumed operations post-pandemic. Consequently, it was able to serve over 10 million SMEs and extend loans totalling RMB 400 billion (US$63 billion). A 'zero-payment-day' service was launched, which attracted around 6.5 million rural lenders in one month, and this was extended by another four months.

The bank also established strategic goals to help develop China's green financial system and green financial instruments, promote participation among consumers and investors in green finance, and guide SMEs and farmers to use green finance as a means of delivering on China's broader green production and consumption goals.[16]

MYbank's business model hoped to illustrate how inclusive finance could address economic, social, and environmental risks by empowering vulnerable populations to build resilience and mitigate the impact of climate change. The World Bank's research had stated, "While the poor suffer disproportionately from climate change, they have the smallest margins and least access to resilience strategies that can help them avoid, absorb, and adapt to shocks. Rural MSMEs (micro-, small- and medium-sized enterprises) are vital to the health of the rural economy and global food security. These MSMEs, which include primary producers, processors, and traders, face increasing income and asset loss risks due to the changing climate and more frequent natural disasters, and are often not equipped to absorb the economic effects of losses from climate change."[17] MYbank had taken several initiatives to offer its digital financial services in building climate resilience. For example, in 2021, it worked with China Agricultural University to assist the National Disaster Reduction Committee in controlling the flood situation, creating a model to measure the flood and depicting what each area looked like, and advising how to evaluate the economic loss.

MYbank had also launched social welfare programmes to reduce the economic disparity faced by women. According to the International Finance Corporation, women entrepreneurs in emerging markets faced a daunting gender finance gap when it came to growing their start-ups, as they continued to experience unequal access to capital in the traditional banking and investment environment. MYbank tried to bridge this gender bias through a '3D' approach, by enabling digital financing, providing digital skills training, and building digital communities for women entrepreneurs. Between 2015 and 2020, MYbank was able to provide financing to more than 8.2 million women-operated SMEs in China, with an average loan amount of US$5,700. By 2020, over 50 percent of MYbank loan recipients were women entrepreneurs, and about 80 percent of them had received their first-ever loan from the bank.

MYbank: SHARED VALUE MODEL

	For Customers	For the Government
Eliminate	• Physical branches • Loan officers • Risk analysts • Lengthy loan approval process	• Infrastructure costs • Data collection costs • Need for associating with non-governmental organisations to deliver support services
Raise	• Ease of access to finance • Convenient repayment • Higher chance of loan approval	• Easier access to data on SMEs and rural enterprises • Economic growth • Higher agricultural productivity
Reduce	• Interest rates • Delinquency	• Overseeing costs as all data is online • Special schemes to support rural upliftment
Create	• Low-interest loans for any amount • Experience of using formal financial services	• Pathway for rural upliftment • Pathway for reducing economic disparity

TABLE 1

PROFIT VERSUS MOTIVE

In April 2022, as China's rural economy started to slowly recuperate after the pandemic, MYbank's role as an enabler of rural entrepreneurship became even more critical amidst rising regulatory control to support stricter oversight on data sources and data use.[18] At the same time, competition in the online banking market was increasing, and players like WeBank were encroaching into the SME market space.

A separate consideration was regarding digital currencies. In January 2022, China launched its pilot digital yuan, also referred to as the e-CNY, which was highlighted by international and national institutions as a tool to promote an inclusive digital economy. MYbank had been selected as one of the distributors of e-CNY, which required residents in China to link their e-CNY services to a bank account. The e-CNY was expected to have a symbiotic relationship with payment platforms like Alipay and WeChat Pay, and provide benefits to online payment platforms by creating more visibility and generating additional payment flows.[19] The challenge was in appreciating its relevance to MYbank's target consumers, and how it would impact the bank's existing business and solutions.

Despite tugging tensions, the future looked promising. But while MYbank's capability of creating shared value was substantial, its profit-making goals were also a necessity. On a pessimistic note, increased competition and regulatory changes could potentially erase some of the bank's competitive advantage. Moreover, its upper hand in creating technological solutions could fade over time, as competitors came up with similar solutions. However, with the growing penetration of technology in rural China, and continued government support for microfinance, it was unlikely that MYbank would need to succumb to trade-offs on social responsibility and sustainability over profit. AMI

Between 2015 and 2020, MYbank was able to provide financing to more than 8.2 million women-operated SMEs in China.

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Making Manufacturing Strategic for the 21st Century

The role of the manufacturing executive must be upgraded too.

by Arnoud De Meyer, Kasra Ferdows, and Ann Vereecke

Would you consider Moderna to be a manufacturing company? Most likely not. But for it to meet the vaccine delivery demands during the COVID-19 pandemic, the Massachusetts-based biotech company must have already forged formidable manufacturing prowess as part of its capabilities. In fact, for most of us, when we think of juggernauts in manufacturing, it is Toyota, the Japanese auto giant, that first comes to mind. No doubt when Toyota knocked General Motors off the perch as the world's largest automobile company in 2008, its Toyota Production System (TPS) of lean manufacturing had already become the *sine qua non* of manufacturing by then. The near-universal adoption of just-in-time (JIT) production systems that prioritise lead times and cost efficiency, as much as they do quality, has rendered it a defensive strategy. Because every company has become so good at it, one has to be the same as well simply to avoid falling behind. In other words, manufacturing has lost its strategic role.

The recent shocks from the supply chain disruptions caused by the pandemic have also raised questions about the wisdom of going all-in into JIT or lean manufacturing. The global silicon chip shortage shows us that perhaps companies have gone too far in building a lean supply chain, taking out critical muscle in their quest to remove fat, and in the process losing substantial robustness. At the same time, companies, including manufacturers, need to contend with other pressing challenges concerning sustainability (including those from climate change and environmental degradation) and the accelerating pace of emerging technologies.

So what should be the role of manufacturing today given all these challenges? In this article, we argue that it is time for manufacturing to become strategic again. Being defensive is no longer sufficient; manufacturing should strengthen its offensive capabilities and become a formidable tool once more to improve a company's competitive position. We present a framework that guides senior executives on the mix of capabilities that would help them respond to pressing challenges according to their choice of business strategies. In the process, we give examples to show the multiple pathways for upgrading manufacturing capabilities, including those taken by Moderna. Just as important, making manufacturing strategic necessitates a relook at the roles and responsibilities of the executives running the manufacturing operations in the company. We conclude with the implications for the manufacturing executive to jumpstart reflection and conversations beyond what is covered in our article.

CAPITALISING ON INFORMATION DENSITY AND INTERCONNECTEDNESS

For manufacturing to play a strategic role, executives must first examine and understand two trends evident in the manufacturing process today: first, increasing information density of products; and second, increasing connectedness of the production process.[1] For sure, these two trends are not the only ones that deserve attention, but as they are specific to the objective of upgrading the strategic role of manufacturing, we pinpoint them as among the most important shifts needed to create such new opportunities.

Increasing information density of products refers to how products today carry a lot more information than they did in the past, even for non-digital ones. For example, the packaging of a carton of milk now has labels indicating its nutritional profile, manufacturing and expiry dates, and country of origin, and possibly even information on how to dispose of the packaging. A ‘smart’ mattress, such as one by a US brand Sleep Number, not only adjusts its temperature, softness, and angle to your preference, but it can also measure your biometrics (e.g., heart rate, breathing, and sleep pattern) and even infer whether you may be suffering from sleep apnoea or restless foot syndrome. The information collected goes beyond informing the customer; it is also shared with Sleep Number for it to create new products and for researchers to derive health insights.

This growing intensity of information is evident in almost every sector and product, from apparel and household appliances to medical devices, and, of course, vaccines. In fact, production and supply systems need to develop capabilities in tandem to collect, analyse, exploit, and provide this variety and volume of data, and likely at high velocity (i.e., quickly) as well.

One reason for the extent of such proliferation can be attributed to the rapid and wide adoption of sensors, implicit from the smart mattress example above. For example, sensors in a commercial jet engine flying from Singapore to London generate gigabytes of data. Such data in turn can be studied to ensure timely and targeted maintenance, and improve the design and manufacture of future models. Another example comes from the construction industry. There are lots of sensors built into buildings and bridges. In the former, data on how wind or tremors affect a building can help produce stronger and safer buildings, and in the latter, the force produced by vehicles at different speeds and in various weather conditions informs maintenance and repair decisions.

Increasing connectedness of the manufacturing process refers to how different production steps are becoming more intermeshed than before. In recent years, we observe this taking place even when plants share neither physical proximity nor a common owner or controlling entity. One prominent driver of this trend is the increasing concern for the sustainability of manufacturing operations and the realisation of higher value creation when entities collaborate, whether in loosely-coupled networks or in more tightly-knit and mature business ecosystems.[2] Perhaps this trend is best illustrated by the chemical industry where the by-product of one plant becomes the raw material for another. For instance, Novo Nordisk at Kalundborg Symbiosis, an eco-industrial park in Denmark, produces waste that other plants nearby use–a fine example of the circular production that the industrial park prides itself on. Other waste materials are used as fuel, another reason for the industrial park’s claim that “local energy supply is CO_2 neutral”.[3] Another example comes from Trident Feeds, the British agricultural products company, where leftover sugar beet pulp post-sugar extraction is turned into cattle feed. Some of the pulp is burnt to warm the greenhouses where tomatoes are grown. Where leftover material was usually dumped as waste, it now generates additional value through out-of-the-box thinking, and symbiotic coalitions and collaborations.

Modern factories very often operate in an industrial network that spans different geographical locations and involves plants of different companies, but they work together all the same. Singapore’s Jurong Island is a good example, where the government has brought together and built an ecosystem of companies for the energy sector: from oil processing and refineries to a liquified natural gas or LNG terminal, and related supporting logistics and engineering companies. They are all in and around Jurong Island, forming mutually beneficial connections.

Two trends are evident in the manufacturing process today: first, increasing information density of products; and second, increasing connectedness of the production process.

A new framework

By treating the two trends as dimensions, they can be expressed as a 2x2 matrix, giving us four archetypes of manufacturing (refer to Figure 1). Companies in quadrant A (standard manufacturing) occupy the traditional space of manufacturers, whose main focus is on basic production capabilities: quality, reliability, and cost efficiency. Companies making relatively straightforward products, such as drink bottles and pencils, can stay in this quadrant, and focus on the abovementioned capabilities.

As such, companies located in quadrant A can examine their market position and decide on the appropriate direction to adopt when upgrading their manufacturing capabilities. Those who move into quadrant B (grid manufacturing) would reduce their environmental footprint and create value through closer co-operation, possibly by exchanging by-products with other manufacturers. Companies moving into quadrant C (data-rich manufacturing) would learn a lot more about their customers and in the process boost their ability to customise products, as well as enhance the traceability of their supply chains.

Quadrant D (ecosystem manufacturing) is the most difficult to achieve. Autonomous vehicles would be an example of such manufacturing: close collaboration is required among multiple parties, from software developers and automobile producers to cloud computing providers and map developers. On top of the interconnectedness, participants also share enormous amounts of data and information. In fact, all that combines to create unique capabilities that belong not to any single company, but accrue to the entire ecosystem.

THE A, B, C, AND D IN MANUFACTURING: BUILDING NEW CAPABILITIES

A manufacturer can explore multiple pathways to move from quadrant A to any of the other three quadrants using the five capabilities outlined in Table 1. Based on our framework, different moves require the development of various kinds of offensive capabilities in manufacturing. It is key for companies to develop a mix or a portfolio of capabilities to migrate from quadrant A to other quadrants. After we briefly introduce each of the five capabilities, we discuss how movements from quadrant A could be achieved using specific examples.

FOUR-QUADRANT MATRIX ON STRATEGIC MANUFACTURING PATHWAYS

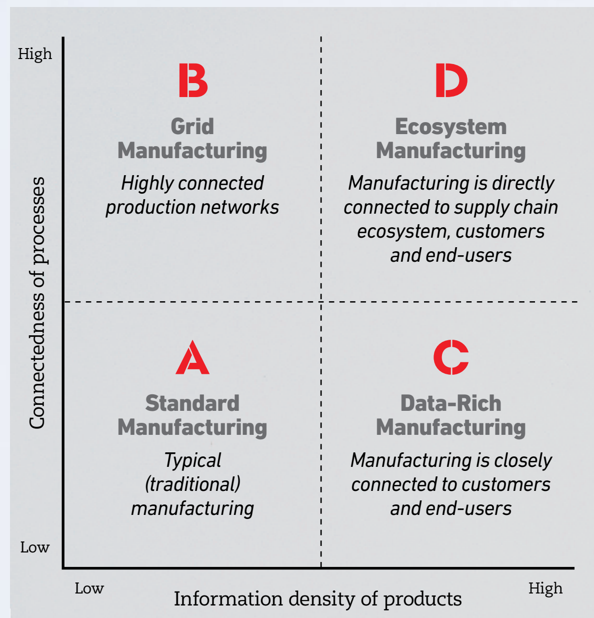

FIGURE 1 Source: Adapted from Arnoud De Meyer, Kasra Ferdows, and Ann Vereecke, “Manufacturing on the Move: Building Offensive Capabilities for Strategic Advantage” (presentation), Cambridge International Manufacturing Symposium, September 23, 2022

NEW PATHS FOR UPGRADING MANUFACTURING'S ROLE: CHOOSING THE RIGHT MIX OF FIVE CATEGORIES OF CAPABILITES

1. **Expanded View**
   Looking beyond traditional functional walls of manufacturing
2. **New Technologies**
   Deploying new process and digital technologies quickly
3. **Products-to-Solutions**
   Developing new capabilities to support, help, or even lead the shift from providing mere ‘products’ to providing ‘solutions’ and enhancing the consumer experience
4. **Intracompany Network**
   Leveraging the intracompany network, shifting away from standalone operations
5. **Ecosystems**
   Working effectively in intercompany networks and ecosystems

TABLE 1 Source: Arnoud De Meyer, Kasra Ferdows, and Ann Vereecke, “Putting Manufacturing on the Offensive”, Production and Operations Management, 32(1), 2023

Expanded view

With heightened information density of products and interconnectedness of process, factories need to think beyond the production process that converts raw materials into finished products. Manufacturers will need to engage multiple stakeholders and community partners to address potential environmental, social, or regulatory issues. For example, factories could learn how to reduce transaction costs to build trust with partners instead of squeezing extra efficiency out of the assembly line. They can also set up urban facilities that are integrated into residential areas, which will not only reduce commuting time for staff and enhance market responsiveness, but also possibly cut transportation times and exhaust-related pollution.

New technologies

This is linked to *Expanded View*. The already vast amounts of sensor-generated data that feed into technologies, such as Artificial Intelligence (AI), digital twins, and additive manufacturing amongst many others, will continue to grow and at an accelerating rate. To expand the view of manufacturing, companies' chosen technology must be built on an architecture that is more open than that of traditional systems. This allows internal and external partners to build the agility needed to implement the new technology seamlessly, improving things such as the reliability of supplies and the duration of fulfilment lead times. The expected gains are not traditional ones such as cost efficiency, therefore they require management to appreciate the justification for investing in technology that is not traditional 'manufacturing'.

Products-to-solutions

Business customers, like consumers, are increasingly also buying the experience, not just the product. They also value solutions that take care of long-term operations and maintenance post-purchase, and what better way to provide that value than building it into the product during manufacturing? The trend of servitisation, where the 'product' for sale is a service, is forcing manufacturing, traditionally a non-customer-facing function, to learn to contribute to the experience.

Intracompany network

Benefits can be gained from increasing the connectedness of process within the company, but that is easier said than done. Disruption to existing procedures can hurt manufacturing managers' key performance indicators or KPIs and therefore temper desire to implement changes, even though manufacturing networks coped with COVID-19 supply disruption much better than standalone factories. Major decisions at the highest level must be taken to reconfigure the architecture of the company's global production network.

Ecosystems

An interconnected ecosystem is necessary to deliver the solutions and experience customers expect. Manufacturers must learn to collaborate more, and more effectively, with partners to not just improve their manufacturing capabilities but also solve problems that are deemed insurmountable by any single member of the ecosystem.

There are multiple pathways that a company can take to move from quadrant A to the other quadrants. We show how it could be done using the capabilities we have discussed above, with illustrations from three large manufacturing companies–Moderna, IKEA, and XCMG (refer to Figure 2).

ILLUSTRATIONS OF STRATEGIC MANUFACTURING PATHWAYS

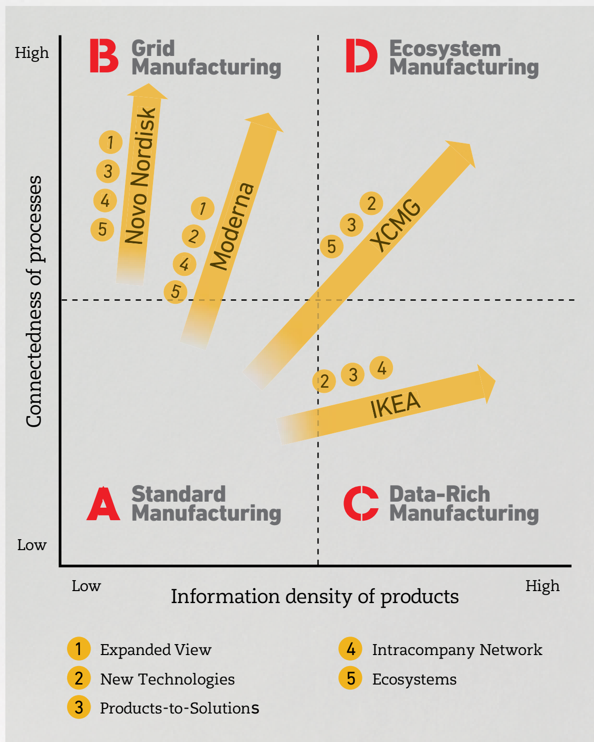

FIGURE 2 Source: Adapted from Arnoud De Meyer, Kasra Ferdows, and Ann Vereecke, "Manufacturing on the Move: Building Offensive Capabilities for Strategic Advantage" (presentation), Cambridge International Manufacturing Symposium, September 23, 2022

From A to B: Moderna

Pharmaceutical heavyweight Moderna went from quadrant A to B by enhancing capabilities 1, 2, 4, and 5. The Boston-based company has been fostering closer integration among its manufacturing operations and other internal functions (*Capability 4*), as well as building a greenfield factory that facilitated the exchange of knowledge beyond its functional walls or silos that hardened according to functions and expertise within a company, such as finance and technology (*Capability 1*). The company also strengthened its partnerships (*Capability 5*) within its ecosystem, which culminated in new technologies (mRNA) for making drugs (*Capability 2*).

Moderna CEO Stéphane Bancel said, "Manufacturing was also a key enabler. If you have great science but cannot make a product, there's no business. We invested in our own plant in Norwood, which gave us full control over the manufacturing process. We'd have had no chance to go this fast had we relied on contract manufacturers."[4]

From A to C: IKEA

IKEA, the world's largest furniture retailer, shifted from quadrant A to C by focusing on capabilities 2, 3, and 4. By developing new technologies (*Capability 2*), IKEA was able to address fundamental changes wrought by the uptake of online shopping where a wider variety of options translated into smaller production batches. Its IKEA Place app is an example of 'products-to-solutions' (*Capability 3*) that enhances the customer experience via augmented reality (AR) simulation of a living space.

To put it all together, IKEA has ramped up its intracompany network (*Capability 4*) by making some of its factories focus on smaller batches to reduce lead times. The goal is to respond to changes in demand more as a network than as standalone factories. As Per Berggren, Head of Industry Strategies, said, "We must increase our production's agility and shorten our lead times."[5]

From A to D: XCMG

XCMG, also known as Xuzhou Construction Machinery Group, is the third largest construction machinery company in the world. The Jiangsu-based construction equipment producer is the largest in China, and it is making the jump from standard manufacturing into ecosystem manufacturing by focusing on capabilities 2, 3, and 5.

Its Xrea Industry Internet platform (*Capability 2*) is the "first national industrial Internet platform in China, which connects equipment through the Internet of Things (IoT)".[6] It connects over 400,000 pieces of equipment through the IoT and applies the collected data to manage them through enterprise resource planning (ERP) and its manufacturing execution system or MES. The apps to manage all this information move what the open cloud platform offers beyond being merely products to becoming solutions (*Capability 3*), allowing for predictive maintenance and energy management.

Manufacturers must learn to collaborate more, and more effectively, with partners to not just improve their manufacturing capabilities but also solve problems that are deemed insurmountable by any single member of the ecosystem.

Perhaps the most significant is the ability to capitalise on the entire ecosystem that Xrea represents (*Capability 5*), which includes working closely with equipment manufacturers, industrial service developers, and industrial app developers. Xrea serves over 1,000 companies spread across more than 20 countries, and covers enterprises ranging from the military, optical cables, and wind power. Its open platform architecture, combined with a treasure trove of data including equipment temperature and ERP information pertaining to project management and supply chain operations, represents an industrial Internet service ecosystem that provides standard intelligent software and hardware interfaces. Third-party software and hardware developers can build custom applications that best suit their manufacturing strategies, in a fashion analogous to app developers writing apps on the Apple or Android platforms.

Many of the capabilities are not new. For example, the need to collaborate better with other parts of the company (*Capability 4*) is something that has been emphasised for the last 30 years. What we are arguing is that it requires a lot of deepening. At the same time, it is also clear to us that no company can implement all five capabilities at the same time. That said, executives still have a choice. They can follow different paths and find their own way of pursuing or improving their companies' competitive positioning through manufacturing.

We also emphasise that migrating from quadrant A to other quadrants by itself is not a superior move. There is still a role for traditional manufacturing, such as the straightforward bottling of soft drinks and the production of very simple gadgets. In this instance, simple and straightforward manufacturing with low data intensity, and without the pressure for tight integration with others, would suffice.

REVITALISING THE ROLE OF THE MANUFACTURING EXECUTIVE

As one can surmise, building direct links to customers and providing 'solutions' to them instead of mere 'products', learning to work closely with members of the same ecosystems as partners, deploying new technologies, and enhancing the sustainability of end-to-end supply chains call for innovative and creative ways to upgrade the strategic role of manufacturing.

Another obvious consequence as the strategic role of manufacturing shifts from defensive to offensive is that manufacturing executives will come into frequent contact with senior management in their companies. We briefly suggest three new sets of skills that they need to develop. First, when looking inwardly within the company, the manufacturing executive must gain a comprehensive understanding of the company's internal production network and supply ecosystem. Second, success with partners in the network and ecosystem often cannot be achieved through fiat. Executives must hone their ability to influence others and become better communicators as they need to interact with all stakeholders, including partners who operate outside manufacturing, who may be in their end-to-end supply chain, business ecosystem, and the broader community. Third and last, it behoves the managers to expand their knowledge of new and emerging technologies from big data and digital tools to AI and blockchain. They must actively look for new ways to help customers in the solutioning process.

CONCLUSION

In this article, we make the case that manufacturing can become strategic again and help companies create a competitive advantage. To do so, companies need to develop new offensive capabilities by capitalising on two prevailing trends: first, increasing the information density of the products, and second, building tighter connections among different manufacturing processes. Our framework provides a useful first step to show that when manufacturing builds the right portfolio of capabilities, it can upgrade its strategic role. Further studies are required to build on the general capabilities that we have articulated and customise the appropriate combinations of these capabilities that help achieve specific business objectives.

Re-casting the role of manufacturing in a strategically important light confers prestige on a previously operational department, making it an attractive career option for young and ambitious managers once more. However, these managers will need more than just technical know-how and supply chain management experience. They must pick up new skill sets and cultivate a thorough understanding of digitalisation. This means that they will also need to stay abreast of new technologies and become better at collaborating with counterparts serving other functions within the same company and beyond its confines.

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This article is based on the 2023 Production and Operations Management (POM) paper that the authors co-authored (see endnote 1) and a presentation given at the Cambridge International Manufacturing Symposium on September 23, 2022.

Endnotes

1. For more details on the two trends, see Arnoud De Meyer, Kasra Ferdows, and Ann Vereecke, "Putting Manufacturing on the Offensive", Production and Operations Management, 32(1), 2023.
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Beyond a Single Quadrant

Rethinking platform businesses in the digital era.

by Vijaya Sunder M and Rithica Mamidi

Technological advancements have provided new opportunities for entrepreneurs to view the Bottom of the Pyramid (BoP) segment as a potential market to offer products and services to marginalised people by creating new drivers of economic growth, improving the welfare of the poor, and making profits. The BoP market refers to the poorest two-thirds of the economic human pyramid, a group of more than four billion people, living mainly in the developing world, with an average income of less than US$4 per day.[1] In such regions, there is a significant demand for essential products and services related to education, healthcare, financial services, Internet access, and sanitation, which remains largely unfulfilled. This presents a significant opportunity for platform businesses to rethink what and how they sell in these markets.

Entrepreneurial ventures targeted at the BoP segment require a creative, resourceful, and adaptive approach, as this market has inherent unique challenges including a lack of awareness, affordability, availability, and accessibility to goods and services. This demands strategies beyond conventional thinking, and platform business models could help bridge the supply-demand gaps in this segment if firms could strategically overcome such challenges.[2]

Using the case of Logy.AI, a business-to-business (B2B) healthcare platform, we explore the critical dimensions of platform business in a sample BoP setting. Our analysis will be conducted along two dimensions: first, the platform mode, and second, the type of product and/or service. We then incorporate our learnings into a four-quadrant framework for platform businesses and entrepreneurs to adopt, enabling them to gain a competitive advantage in the market. We also emphasise the importance of developing enabling and reinforcing strategies to demonstrate agility among the four quadrants of our framework. This article serves as a resource for organisational leaders and entrepreneurs to break the traditional thinking of myopically positioning their business models and associated strategies within a single quadrant.

KEY DIMENSIONS FOR PLATFORM BUSINESSES

Most people believe that platform businesses are typically associated with digital technologies. Indeed, Amazon, Airbnb, Netflix, and Uber are key examples of digital platforms that rely on digital modes to connect different parties, facilitate transactions, and create network effects.[3] However, it is also true that platforms existed before the digital era. Historically, platforms have been a business model that facilitates interactions among multiple groups or individuals, often to exchange goods or services. These platforms could take many forms and might operate in several industries, ranging from transportation and hospitality to finance and healthcare.

For platform firms, the first dimension concerns what matters most for their business model–is their platform mode digital or non-digital? The second dimension is related to what they sell on these platforms–are they digital or non-digital products or services? Platform-based business organisations can consciously strategise their efforts and investments using these two key dimensions for competitive advantage.

Consider the traditional non-digital platform of the New York Stock Exchange (NYSE), founded in the 1790s. The NYSE is a platform that facilitates trading by connecting buyers and sellers of stocks. In this sense, it is a marketplace for investors to exchange shares in publicly traded companies. Similarly, the shipping industry has long relied on platforms, such as shipping ports and container terminals, to facilitate the movement of goods from one place to another. Newspapers are also used as a platform to offer classified advertisements which promote goods and services. These examples exemplify the non-digitally-enabled platform mode offering non-digital services.

Non-digital platform modes could also be used to offer digital products or services. For instance, Internet cafés provide users with physical access to the Internet, a digital service. Similarly, airport and hotel lounges offer travellers and remote workers high-speed Internet access, and co-working spaces provide cloud-based services.

At the same time, some platform businesses offer non-digital products and/or services on their digital modes. Flipkart, Uber, Airbnb, and Amazon are excellent examples of such adaptation. Specifically, as digital platforms that sell non-digital products including furniture, apparel, and home appliances, Flipkart and Amazon have leveraged digital technology to offer a seamless online purchasing experience for their physical products.

And finally, digitally-enabled platforms like Netflix, Facebook and Instagram sell digital products or services to their customers.

In sum, by conceptualising the above arguments, we cross-fertilise the two dimensions of platform businesses to depict a managerial framework in four quadrants (refer to Figure 1), which will help organisational leaders and entrepreneurs to better understand this concept while providing strategies for future development.

While several organisations fit well into one or two of the aforementioned quadrants, can the business model of platform businesses tap into all four quadrants for the sake of competitiveness? To address this question, this article discusses how Logy.AI tapped into all four quadrants of the framework for business value creation. We derive managerial implications from Logy.AI's case to present how platform businesses can reap a competitive harvest by leveraging strategies across all four quadrants per changing market demands and evolving needs of their customers. We argue that platform businesses should avoid getting trapped in a specific quadrant, broaden their range, and penetrate both digital and non-digital modes and offerings to gain a competitive edge.

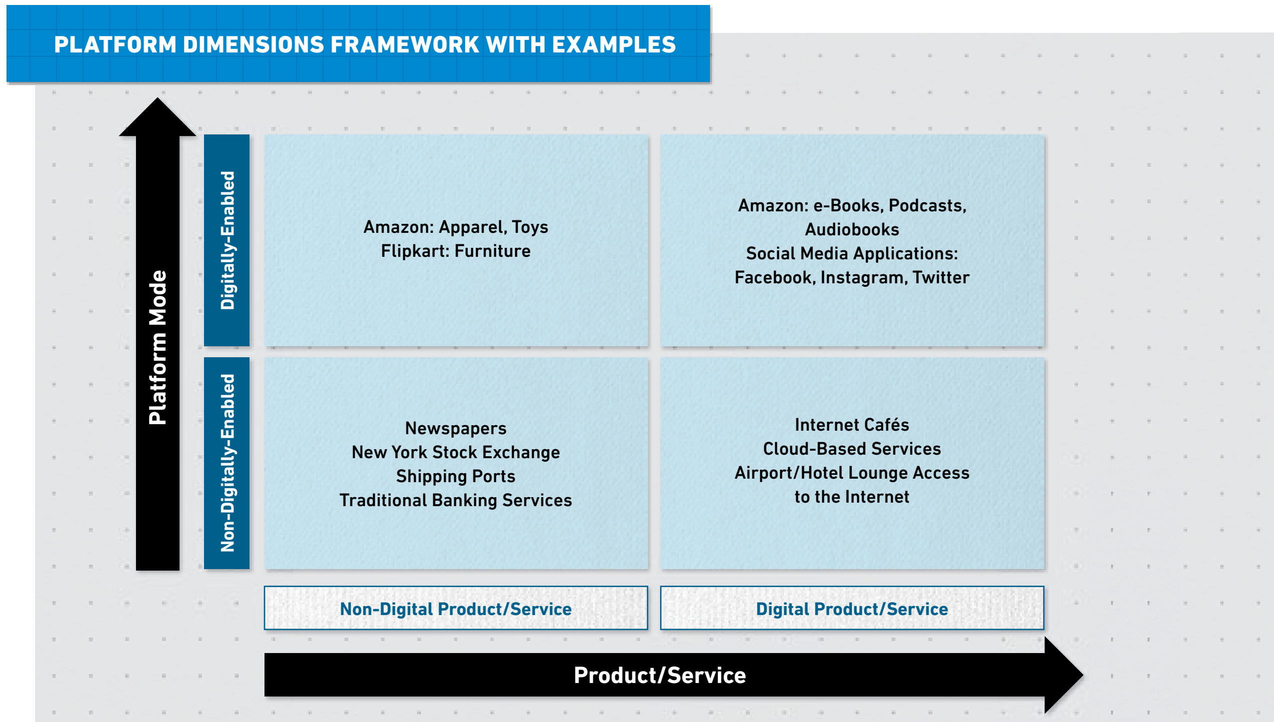


FIGURE 1

As digital platforms that sell non-digital products including furniture, apparel, and home appliances, Flipkart and Amazon have leveraged digital technology to offer a seamless online purchasing experience for their physical products.

Logy.AI

Logy.AI is an Artificial Intelligence (AI)-based B2B healthcare platform business. It was officially launched in India in September 2021. The idea was conceived in mid-2020 during the COVID-19 pandemic when the need for contactless solutions became essential. The lack of digital communication in dentistry and accessibility issues further reinforced the decision.

Helmed by entrepreneurs Priyanjit Ghosh, Anand Panchbhai, Dr Nivedita Tiwari, and Vinay Khobragade, Logy.AI offers quality clinical AI services for the rapid assessment of various eye and oral-related conditions, thus preventing chronic oral diseases like caries, periodontitis, and cancers.

The firm aims to enhance healthcare services by bringing in AI-based oral screening, using the smartphone as a tool, along with care co-ordination integration practices for society as a whole. Having grown up in India, where he witnessed several instances of inadequate health infrastructure, Ghosh, CEO of Logy.AI, wanted to devise a patient-centric, affordable, and easily accessible healthcare solution catering to the BoP segment. With experience as a digital start-up entrepreneur, his interests were inclined towards digital health innovation.

During the development process, Logy.AI underwent several trials to improve the accuracy of its diagnostic services. For instance, in February 2021, the global oral care products brand Colgate engaged Logy.AI to conduct three pilots, starting with initial datasets from India and modifying them using African datasets. The first was an internal trial, followed by two other trials that involved collecting data from about 300 patients over a period of two to three months. From April to May 2022, Colgate engaged Kantar, a third-party global data analytics and insights consulting firm, to conduct the final trial, which involved validating the Logy.AI solution with another 150 patients.

In May 2022, Logy.AI's oral screening solution was launched in Lagos, Nigeria, in collaboration with Colgate, to address the scarcity of dentists and lack of oral health care awareness by providing AI-based oral health screenings, focusing on caries, periodontitis, pre-cancerous conditions, and other chronic dental complications. Nigeria had an incidence rate of 1.2 lip and oral cancer per 100,000 population,[4] coupled with a low dentist-to-population ratio.[5,6] Logy.AI initiated partnerships and collaborations with leading consumer brands, amplifying its outreach efforts across Africa. Its AI solution was endorsed by the Nigerian Dental Association (NDA), an authoritative national dental organisation, and earned the Advan African Innovation Award 2022, a significant achievement that underscores the effectiveness of Logy.AI's technology. Furthermore, with rigorous iterations and refinements in its algorithms, a 95-percent model accuracy was achieved, leading it to be endorsed by Kantar. In July 2022, the NDA endorsed the solution, and operations began covering more than 0.25 million oral screenings annually.

Logy.AI'S BUSINESS MODEL

Logy.AI's business model is centred around a digital screening tool that operates through WhatsApp. Users take photos of their mouth and upload them on the platform, after which digital oral health reports with essential parameters such as oral health status, risk assessment, and personalised product recommendations are generated. These reports are sent to the dentists and doctors in the country for a comprehensive assessment, for which they have to access Logy.AI's telehealth dashboard to conduct their analysis of oral health conditions. Tiwari, Director of Clinical Operations at Logy.AI, commented, "The oral care approach must change from a dentist-centred system to a community-centred one, which will change the paradigm from curative to preventive dentistry."

To increase reach and engagement, Logy.AI, in collaboration with its partners, also offers non-digital platforms such as on-site camps and mobile clinics with doctor consultations, and logistical support for surgery and treatment assistance. It has partnered with consumer brands such as Colgate Nigeria to launch the 'My Tooth Doc' initiative, which uses an AI-based oral screening app and care coordination practices. The initiative involves community dentists and doctors creating awareness among the masses through on-site camps and interventions.

Logy.AI'S PLATFORM BUSINESS MODEL FRAMEWORK

Logy.AI's platform business can be represented as a four-quadrant framework (refer to Figure 2). While each quadrant represents individual value propositions of the platform business independently, they leverage strategies that enable value creation across multiple quadrants, thereby enabling and reinforcing strategies. Enabling strategies involve leveraging one quadrant's outcome to enable the other's functioning, while reinforcing strategies are those where one quadrant's outcome strengthens the other.

Quadrant 1 (Q1) shows the use of its digital AI-based platform to tap a WhatsApp chatbot for oral screening, and Quadrant 2 (Q2) depicts doctors making recommendations during teleconsultations via WhatsApp. To ensure adequate supply (doctor's recommendations) for the demand (oral screening cases), an enabling strategy that feeds Q1 ⟶ Q2 is leveraged. Similarly, another enabling strategy from Quadrant 3 to Quadrant 4 (Q3 ⟶ Q4) connects non-digital oral products and online service-providing companies like My Tooth Doc during on-site camps and mobile clinics.

It is crucial for platform businesses to avoid becoming fixated on a single quadrant, and they should instead prioritise openness.

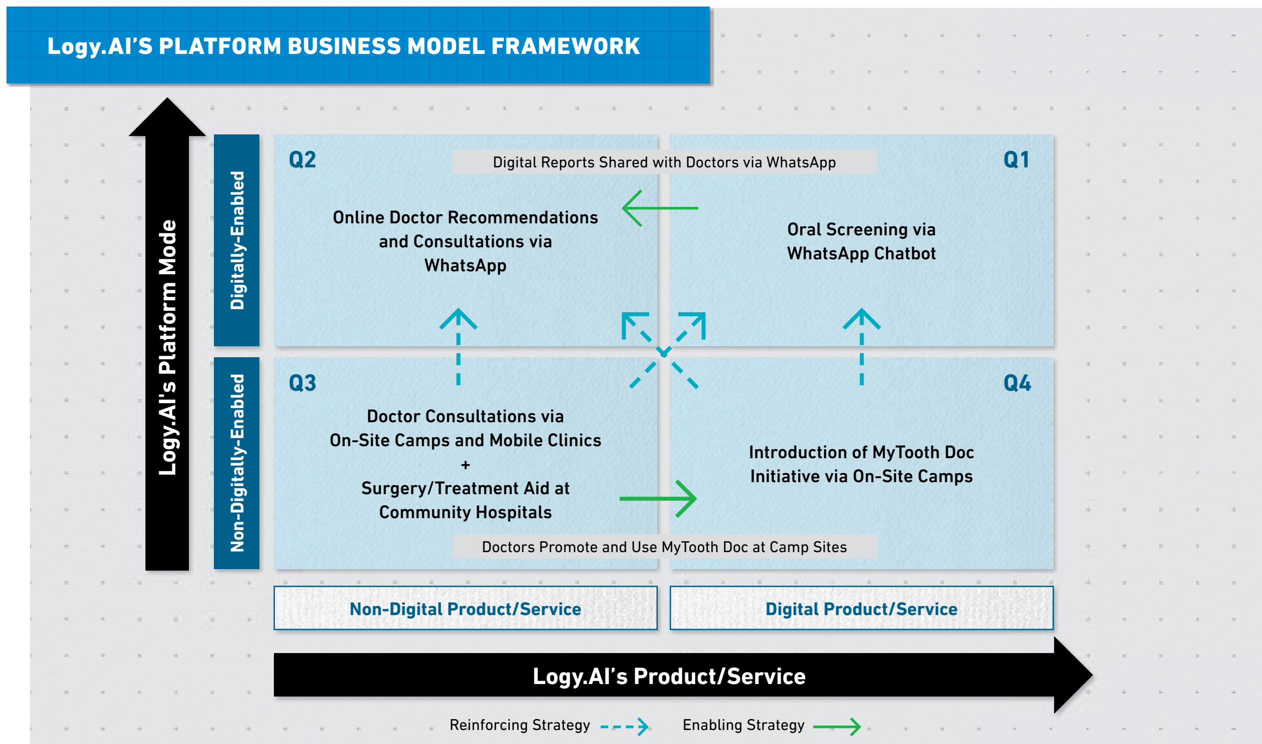
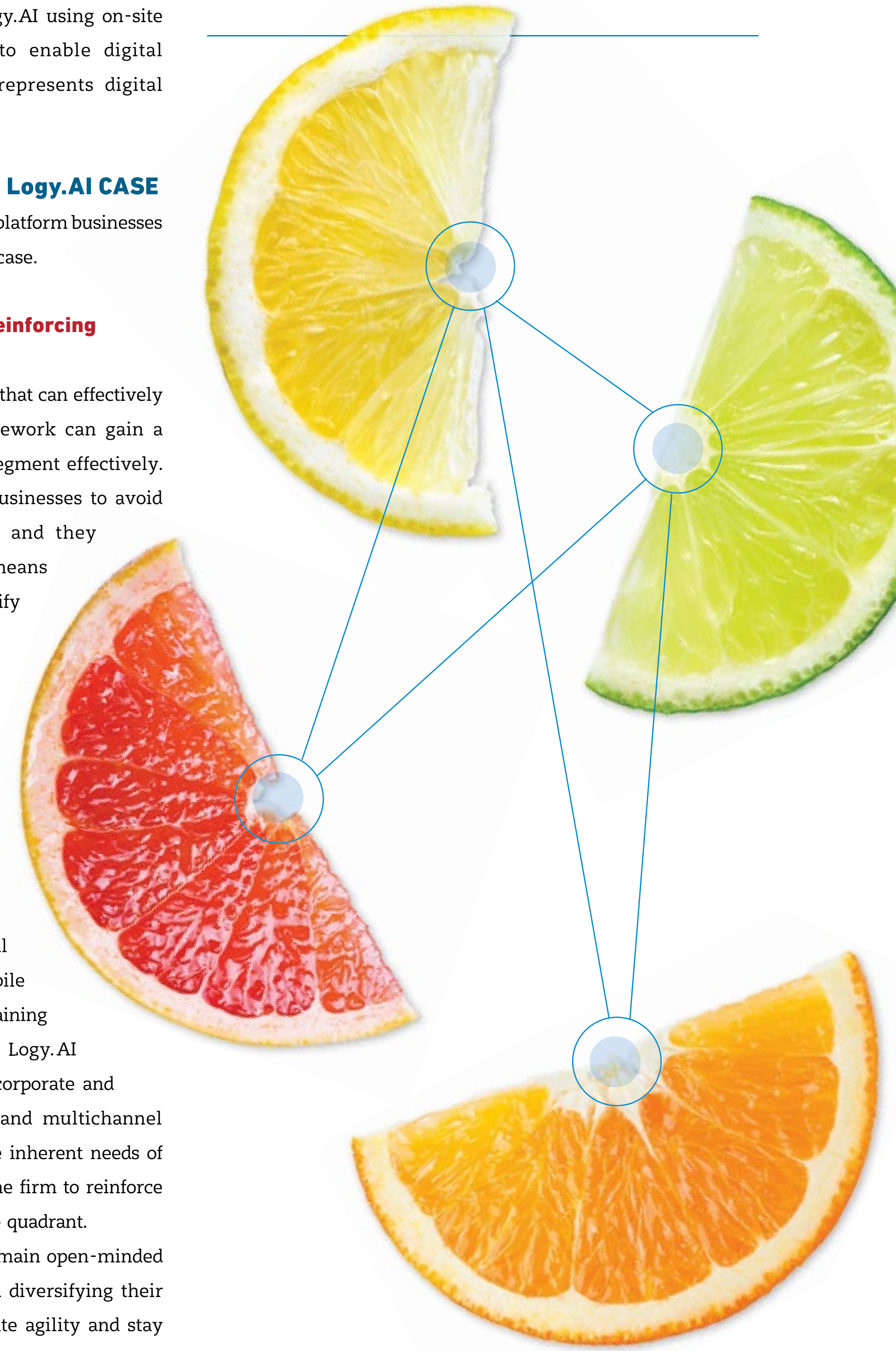


FIGURE 2

To further enhance the user experience, Logy.AI has devised reinforcing strategies, so Q4 ⟶ Q2 presents a strategy where users of Logy.AI's mobile application in Q4 are referred to online dental professionals for virtual diagnosis and consultations. Additionally, to gamify user experience, Logy.AI offers cross-selling services such as a seven-day 'Colgate Care Challenge' as a reinforcing strategy (Q4 ⟶ Q1). In a similar vein, Q3 ⟶ Q1 indicates Logy.AI using on-site doctors promoting WhatsApp chatbots to enable digital behaviours in people, and Q3 ⟶ Q2 represents digital follow-ups post on-site consultations.

While platform businesses need to tap into all four quadrants, they must also identify and distinguish their core quadrant from the other quadrants.



KEY MANAGERIAL INSIGHTS FROM Logy.AI CASE

Here are four key managerial takeaways that platform businesses and entrepreneurs can draw from Logy.AI's case.

1. Build a multichannel platform by reinforcing capabilities across all quadrants

As an agile organisation, a platform business that can effectively operate in all four quadrants of the framework can gain a competitive advantage and serve the BoP segment effectively. Put differently, it is crucial for platform businesses to avoid becoming fixated on a single quadrant, and they should instead prioritise openness. This means exploring other quadrants to scale and diversify their operations, which can help platform businesses reinforce their platform modes and offerings.

Once a platform business has determined what to sell and how to interface in one quadrant, it should focus on scaling and expanding into other quadrants. For instance, Logy.AI did not limit itself to its digital platform, but instead opened avenues to start non-digital platforms such as screening camps and mobile clinics across Nigeria. Furthermore, by remaining open to diversifying its platform business, Logy.AI also leveraged strategic partnerships with corporate and healthcare providers to create a holistic and multichannel platform with many offerings to address the inherent needs of its target audience. This approach allowed the firm to reinforce its capabilities in other areas beyond a single quadrant.

Therefore, platform businesses must remain open-minded and explore all possibilities for scaling and diversifying their platform modes and offerings to demonstrate agility and stay competitive and relevant in the market.

2. Identify the core quadrant and enabling strategies

While platform businesses need to tap into all four quadrants, they must also identify and distinguish their core quadrant from the other quadrants. Additionally, leveraging enabling and reinforcing strategies can be effective for achieving growth and expansion.

For platform businesses serving the BoP segment, identifying the quadrant that closely corresponds to its customer-oriented solution is vital. In the case of Logy.AI, it leveraged its core quadrant, Q1, to develop a novel oral screening solution powered by AI technology. This innovative solution allows users to receive at-home screenings through an easy-to-use chatbot platform on WhatsApp. Cutting-edge image processing technology was employed to capture and upload images of mouths submitted by users, which promptly generates an oral health report in their preferred local language. The platform overcame challenges such as low Internet connectivity and slow network speeds by leveraging chatbots and AI image processing. Its user-friendly interface includes instructional videos in local languages to ensure easy comprehension and adoption by Nigerians.

Furthermore, Logy.AI implemented enabling strategies to expand its business and widen its reach by utilising its core quadrant and other quadrants to supplement the core quadrant. To achieve this, the company integrated both digital and non-digital platforms and offerings to complement each other. For instance, in addition to its core services, Logy.AI enabled supplementary services like sending digital reports via WhatsApp to beneficiaries and doctors for comprehensive assessments (Q2). It also organised awareness camps and mobile clinics to support its beneficiaries further (Q3). To connect with a broader audience and increase local engagement, Logy.AI identified potential partner brands and collaborated with them to customise its health messaging and amplify its outreach (Q4).

3. Landscape the supply market and leverage the reinforcing strategies

To create sustainable solutions and expand their consumer base, platform businesses must conduct thorough research on the supply market to identify potential partners, local communities, and non-governmental organisations. However, even promising solutions may face challenges. During initial screening trials in Nigeria, most people were unaware and sceptical about Logy.AI's solution. To overcome this, Logy.AI partnered with local community leaders and established consumer brands, hospitals, doctors, and governmental bodies that recognised its offerings. These potential partnerships became vital to Logy.AI's revenue model, allowing it to digitise patient data, screen for early-stage oral cancers, and provide beneficiaries with hospital recommendations.

As a healthcare technology company, Logy.AI offers innovative solutions to help patients conveniently access healthcare services. On the other hand, Colgate Nigeria is a leading consumer goods company specialising in oral care products. By tapping Q4, Logy.AI capitalised on the supply market's products by forming a coalition with Colgate and using its digital screening tool. This collaboration was driven by a reinforcing strategy between Q4 and Q2 by extending its services to a wider range of potential beneficiaries during their camps, and facilitating the connection of these beneficiaries to doctors via their online platform.

Logy.AI's partnerships were not a planned strategy but an emergent one (underscoring the importance for platform businesses to be agile and spot opportunities to pivot), but when the opportunities emerged, Logy.AI leveraged them for reinforcement. For instance, after dental appointments, Colgate Nigeria supplied beneficiaries with oral care products like toothpaste and mouthwash. In addition, the gamification of the user experience was another fascinating reinforcing strategy. For instance, beneficiaries were motivated to complete a contest in exchange for a prize (Q4 ⟶ Q1). The cross-selling of products established a value chain that benefitted both companies, with Colgate Nigeria supplying patients with oral care products and Logy.AI providing an engaging user experience.

Furthermore, endorsement from governmental organisations such as the NDA built credibility and made Logy.AI eligible for government funding programmes, providing the financial resources needed to develop and scale their solutions.

4. Demonstrate agility by serving the demand side and encashing through the supply side

For platform businesses, demonstrating the agility to move across all quadrants involves identifying the needs of both the demand and supply markets, and creating value for all parties involved. The Logy.AI case demonstrates how a digital screening tool, associated platforms, and offerings can serve as an interface between the demand market (people in underserved communities who require oral health products or services) and the supply market (organisations and healthcare providers which can provide these products or services).

Logy.AI identified a growing demand and need for oral health services in BoP markets, particularly in Nigeria. Although it does not provide a cure for caries, periodontal diseases and oral cancer, it identifies potential cases that require medical attention. Without this awareness, high-risk cases that need immediate dental consultations would not have been identified, among other general oral issues.

Additionally, Logy.AI leveraged the supply market's products and services by creating a market for them, resulting in a mutually beneficial partnership that generated revenue for Logy.AI. Commented Khobragade, Technology AI Researcher at Logy.AI, "We believe that our solution has the potential to impact millions of communities and individuals at the BoP substantially."

CONCLUSION

Logy.AI's unique and holistic platform approach allows it to effectively bridge the gap between demand and supply markets in the BoP segment. Through its four-quadrant platform dimensions framework, the firm has positioned itself effectively in each quadrant, cross-fertilising them for maximum impact and demonstrating agility in the process.

It helps to employ a multi-mode approach by leveraging digital and non-digital capabilities, platforms, and offerings by enabling and reinforcing strategies that cut across the four quadrants. As Ghosh concluded, "Our current focus is on serving 70 percent of the population in Nigeria by providing a simple and innovative solution to replace expensive and inaccessible intraoral scanners. The goal is to deploy our solution across other African nations, such as Kenya and Tanzania, in a scalable and sustainable manner." AMI

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Care Labour Shortage Needs a Cure, Not More Band-Aids

Retaining care workers will become more difficult for Asia's ageing economies.

by Yasmin Ortiga

Lizalyn never thought she would be the kind of person who actively made migration plans. When the 30-year-old nurse moved from the Philippines to Singapore in 2008, it felt more like a leap of faith. Although she knew nothing about Singapore, Lizalyn had sent in an application and was immediately hired.

A decade later, Lizalyn is carefully planning her next move. Nurses are still in short supply in Singapore's hospitals, but wages in the country's healthcare system remain far below those of countries like the US and the UK. Lizalyn's plight is like that of many other migrants in Singapore–her work visa does not allow her to sponsor dependants like her husband. After two failed attempts at gaining permanent residency, she had decided to apply for a position in Germany.

At that time, dozens of Lizalyn's foreign colleagues had already left Singapore. Even though Lizalyn's nurse manager tried to convince her to stay, she decided that moving was a better option for her family. She left Singapore in 2021 during the second year of the COVID-19 pandemic.

Lizalyn's story reflects an understudied dilemma amid how researchers have made sense of care workers' movement across borders. In tracing international migration, scholars have tended to focus only on two places: the destinations that benefit from the influx of foreign workers and the source countries that they leave behind. Few realise that there are other nations between these two places–locations that serve as attractive 'stops' along the way, but remain unlikely places to stay.

In this article, I highlight the problems faced by these intermediate locations–countries that workers move through before they reach their final destinations of choice. I use the case of care workers to argue that as global care needs rise, these places will also become vulnerable to serious labour shortages unless governments work to attract and retain care workers. To date, the number of countries facing this dilemma has only continued to grow, encompassing wealthy Asian economies like Singapore, Japan, and Korea.

I end this article with three suggested changes that countries and organisations could consider in improving their appeal to care workers in this race for such talent. While pay is one of them, I highlight two other aspects which will go a long way to attract foreign care workers.

PROBLEMS IN THE CARE CHAIN

In making sense of care workers' migration patterns, scholars have used a prominent framework termed the 'global care chain'.[1] This framework argues that as more women enter the workforce within wealthy nations, families increasingly outsource care and household labour to migrant women, mostly from poorer countries in the Global South. Then, as these women leave their children to work abroad, their families might seek another woman from a poorer part of the country to take her place. Scholars argue that as we move down this chain of care labour, the exchange value of such work decreases until it eventually becomes unpaid. In this story, care is a resource extracted from the disadvantaged countries, mainly for the benefit of more privileged nations at the top of the chain.

While this framework helps us understand how care can be unevenly distributed around the world, it does not adequately explain how people move through the different countries that comprise this care chain. Much focus is placed on the lack of care within origin countries and the 'care surplus' within the destinations where these workers end up. However, we actually know very little about what this means for nations located in the middle of these two places.

As such, recent studies have moved beyond the care chain to look more closely at how individual migrants plot their migration journeys. Researchers found that instead of simply moving straight to their desired destinations, migrants are more likely to make incremental steps through other countries first, accumulating the resources needed to reach their target destinations. Anju Mary Paul, a sociologist from New York University Abu Dhabi, describes this practice as a form of 'stepwise migration'.[2]

In many ways, stepwise migration makes sense in a world where immigration has become much more costly and bureaucratic. Gaining entry into countries that offer higher wages and residency status is often a difficult endeavour, requiring massive investments of both time and money. For healthcare professionals, popular destinations like the US require clearing expensive examinations and years of clinical experience. Paul argues that stepwise migration is a common strategy that both low-wage and highly-skilled migrants use in navigating all these challenges.

However, in many countries, the assumption of continuous stepwise migration can undermine sustainable policies in attracting and retaining care workers.

CHOOSING NOT TO COMPETE FOR CARE WORKERS

Countries within Asia have come to rely heavily on foreign care workers such as nurses, caregivers, and domestic workers. Yet, state policies within the region have mainly treated these migrants as temporary visitors. Across the region, few care workers are entitled to sponsor family members as dependants and, often, applying for citizenship is notoriously difficult.

Geographer Margaret Walton-Roberts argues that such policies have encouraged healthcare professionals like nurses to see certain countries as only short-term stints along their migration journeys. In a recent article on Singapore, she wrote that while migrant nurses saw the country as "offering the potential to move on to other more desirable migratory locations", the low chance of being granted permanent residency also made Singapore only "a temporary stop".[3]

There are many reasons for such restrictions. Small nations may not have the capacity to absorb too many new citizens and temporary migrants provide a cheaper form of labour for local employers. Others argue that care work is simply devalued. While some states may readily grant permanent residency to technical or corporate professionals, nurses are often seen as 'semi-skilled' workers.

Whatever the case may be, underlying such policies is the belief that there will always be a fresh supply of foreign care workers who will come into the country. Nurses like Lizalyn may come to gain more hospital experience. Meanwhile, others may be looking to earn more money than they do at home. Even if these nurses eventually leave for more desired destinations, the assumption is that others will take their place. As such, rather than competing with larger destinations like the US or Canada, countries in the middle of the care chain often rely on an influx of new workers to deal with the constant attrition within hospitals and homes.

Much focus is placed on the lack of care within origin countries and the 'care surplus' within the destinations where these workers end up. However, we actually know very little about what this means for nations located in the middle of these two places.

Unfortunately, these governments can no longer take for granted a continuous supply of care workers. This is because care workers like nurses have more choices now than before.

SKIPPING OVER THE STEPPING STONES

Stepping stone destinations are starting to feel the strain of labour shortages. First, as healthcare needs have grown in wealthy nations, desired destinations have loosened requirements for entry, allowing foreign care workers to 'skip' places in the middle of the care chain. Even before the pandemic, the UK had rescinded the requirement for all foreign nurses to have at least 12 months of clinical experience.[4] Such changes allowed care workers to move straight from the Philippines towards their desired destinations, without the need to make incremental steps towards other countries.

In contrast, stepping stone destinations like Singapore and Japan have been hesitant to adjust their own skills requirements despite growing competition from other nations. In Singapore, foreign nurses must have at least three years of experience in a tertiary hospital with at least 100 beds in order to qualify for a staff nurse position. Because such institutions are rare in places like the Philippines, Filipino nurses who move to Singapore are often demoted to lower positions, such as that of an enrolled nurse. This requirement remains even as local hospitals continue to raise alarms of serious shortages in their wards.

It is interesting to note that tertiary hospital experience actually qualifies foreign nurses for positions in the US and the UK as well. As such, those who have these qualifications would rather invest in moving straight to these Western destinations, rather than spending a few years working in stepping stone countries such as Japan.

Meanwhile, the passing rate for foreign nurses in the Japanese nursing board examinations has remained below 10 percent, mainly because of difficulties in passing the language requirement for practice.[5] Such trends are concerning, given that the Japanese government has specifically established bilateral agreements with the Philippines and Indonesia to allow for the entry of foreign nurses and healthcare workers into Japan. Given the dismal number of foreign healthcare workers being successfully recruited through this agreement, analysts have declared it a case of policy failure and recommended that Japan shift towards the same recruitment criteria used by the US instead.[6]

Even worse, source countries are starting to restrict the number of care workers deployed overseas. During the pandemic, former Philippine president Rodrigo Duterte had imposed a ban preventing its nationals in 13 healthcare professions from working overseas.[7] While the ban was eventually lifted in 2021, the government continues to impose a cap of 7,500 nurses who can leave for overseas jobs every year. To put things in perspective, this number is a far cry from the 25,000 nurses who left the country in 2019.[8]

Beyond nurses, the Indonesian government has imposed its own ban on the deployment of domestic workers–mainly as a means of pressuring destination countries to improve work conditions and social protection.[9] Similar policies had been imposed by other source countries like Myanmar and Sri Lanka as well.[10] Such uncertainties call into question how sustainable it is to rely on a steady influx of care workers.

WHAT NEEDS TO CHANGE?

Ageing economies within Asia need care workers to sustain everyday life, but there is often a mistaken assumption that competing with countries higher up the care chain is only about raising wages. Drawing from migration research on care workers, I outline three ways through which both policymakers and employers can mitigate future labour shortages.

1. Prioritise care needs in migration policy

As labour shortages become more acute, policymakers in stepping stone destinations may need to re-evaluate their treatment of care workers as only 'temporary' migrants. Nurses are a popular example but there are other forms of care as well that keep a society running. Similar examples in this category include early childhood educators, service professionals, and even domestic workers.

Recruiting migrants based on 'talent' is not unprecedented within Asia. But that recruitment is largely for workers with technological knowledge and skills. For example, in Singapore, a new category of work visa called Tech.Pass was issued to "attract founders, leaders and technical experts with experience in established or fast-growing tech companies, so as to contribute to the development of Singapore's tech ecosystem".[11] The pass also allows the visa holders to bring immediate family members, such as their spouse, children, and parents, to stay in Singapore on either the dependant's or long-term visit pass. These passes are issued by the Ministry of Manpower, Singapore's government body responsible for developing and implementing labour policies related to the workforce in the country. Politicians have justified these efforts because of the economic returns associated with technical skills. Along the same vein, it is within reason that immigration policymakers could consider according selected categories of care workers the same privileges if they want to attract more of these workers.

While care work may not have direct monetary contributions to a nation's economy, scholars have long argued that productivity depends on the reproductive labour that keeps workers alive, healthy, and thriving.[12] In today's society, such work includes a wide range of tasks–from feeding the family and managing a household to attending to people's physical and mental ailments. It is important for nations to properly value and retain the workers who fulfil these needs.

2. Recognise and protect care workers

Policymakers and employers must also recognise that care work *is* a skill that should be given proper recognition and support. While migrants are motivated by the opportunity to earn higher wages, they also seek employment that values their abilities and rewards them accordingly.

In my own work on Filipino nurse migrants, interviewees often emphasise the time and effort they have invested in honing their clinical skills. When they feel that such skills are devalued or misrecognised, they feel compelled to look for other places to practise.

In 2021, I began conducting a series of preliminary interviews with Filipino nurses who migrated from Singapore to other destinations like the US, the UK, and Australia. One factor they cited was the perceived disparities in salaries between foreign and locally-educated nurses. However, another important reason was that these nurses wanted to be promoted to a position that recognised their four-year degrees. This is not to say that there is no discrimination or misrecognition in destinations like the US and the UK. However, my interviewees took solace in the assurance that once they passed the necessary examinations, they could begin work as registered nurses. In contrast, this status is not easily obtained in Singapore.

The question of how to properly recognise care skills is also becoming an important issue for domestic workers and live-in caregivers. As wealthy societies start to age, employers turn to migrant women in caring for elderly parents and relatives. Li-Fang Liang, a sociologist from National Dong Hwa University, has documented how training centres in Indonesia spend an increasing amount of time preparing workers to care for the elderly, with countless hours devoted to tasks such as feeding, bathing, and emergency care.[13] Yet many employers remain hesitant to increase the monetary value attached to such skills. Taiwan has done well in recruiting caregivers due to the high rates for such services. However, other destinations like Singapore remain far behind in terms of compensation. Developing a system that provides clear rewards for specialised skills will not only attract more migrant care workers, but also convince them to stay.

3. Provide for non-economic needs too

Care workers, like the rest of us, seek places that offer stability and a sense of belonging. Attracting care workers need not merely be about offering more money. As migration studies show, workers can be compelled to stay when a place allows them to achieve personal development, establish a community, and find dignity in their work.

While some migrants may initially move to a country as a stepping stone, welcoming policies could entice them to stay. In Singapore, it is therefore heartening to learn that the Ministry of Health is considering granting permanent residency to good performers, given the intensified global competition for nurses.[14] Beyond the instrumental benefits of permanent residency, this practice would also help foreign healthcare professionals feel valued in their host country, and eventually, more committed to staying there.

In the case of domestic workers, simple measures such as allowing for days off can have a significant impact on individual health and well-being. To encourage more nations to enact such policies, scholars have moved towards finding ways to quantify how nations value care labour. A recent proposal for a Global Care Policy Index suggests drawing comparisons among countries in order to determine how much incentives and protections are given to care workers.[15] Perhaps seeking to improve on these indicators can serve as a small step towards attracting care workers.

CONCLUSION

Ageing demographics and falling fertility rates have long been pressing issues for Asian nations. The COVID-19 pandemic has only made things worse and heightened the need to create a sustainable pool of care workers within a country.

For too long, policymakers and employers within the region have relied on the assumption that there will always be migrants willing to come and work, even if they are doing so only as a stepping stone to other destinations. This needs to change. Countries in the middle of the care chain will only face more disruptions when recruiting workers, especially as desired destinations adjust skills requirements and source countries tighten emigration controls. Many governments already have clear policies for attracting highly skilled migrants. It is time that we come to see care as a skill to value, attract, and retain.

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As labour shortages become more acute, policymakers in stepping stone destinations may need to re-evaluate their treatment of care workers as only 'temporary' migrants.

Endnotes

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Achieving Success in Silicon Valley

Desmond Lim tried, failed, and finally succeeded with Workstream, an app that helps businesses hire and manage hourly workers.

From running a restaurant on campus while still a double-degree undergraduate student to founding a successful Silicon Valley start-up, Desmond Lim, CEO and co-founder of Workstream, is perhaps the quintessential entrepreneur. His success with the text-based hiring app garnered him a spot on the 2020 Silicon Valley Business Journal's 40 under 40 list. Desmond shares his fundraising and business-building experience, all the while staying hungry and humble.

HOW DID YOUR ENTREPRENEURIAL JOURNEY START?

I founded my first business, a tutor-to-student matching platform, right after high school to pay for my college tuition. Then, when I was studying at Singapore Management University, I founded and ran a Thai restaurant that sold pad thai (stir-fried rice noodles) and tom yum (hot and sour soup) for three years. Upon graduation, I joined investment banking firm Merrill Lynch. In 2013, after about three years there, I went to study at the Massachusetts Institute of Technology and soon after, Harvard Business School. From there, I joined WeChat as its product manager based in Boston, before moving out to San Francisco in 2016, where I have been based since.

It was in late 2017 when I, along with Max Wang and Lei Xu, started Workstream. It is a hiring and onboarding platform for the hourly workforce. What we were trying to do was build this mobile-first software that helps businesses hire, onboard, and manage hourly workers faster and better.

Both my parents were hourly workers. My dad was a driver, and my mum was a cleaner, so I'm familiar with this category of workers. In fact, there are more than 2.7 billion deskless hourly workers in the world. In the US alone, there are over 80 million hourly workers including drivers, cleaners, as well as those working in restaurants and retail and more. And businesses lacked software built for the unique challenges of the hourly workforce. All the major people management software solutions we hear of today–Workday, Salesforce, Zoom, and Slack–are built for people who work in offices and the technology sector.

I knew this market was not well-served by the software currently available, but I didn't have a clear idea of what users needed most. So I talked to many businesses and figured out that sourcing, hiring, and onboarding people was a significant pain point for them.

My very first customer was a café chain called Coupa Café based near Stanford University. It was among the many businesses like Subway and Jamba that I had spoken with to find out about their problems. I visited the café and its back office, and it was very helpful for my learning. You really have to see the pain points that your clients face in person, and it is even better if you can watch what they are doing. Because when you ask someone, "What are the problems you have when you are trying to hire people?", most would instinctively say, "There are no problems. Everything is going very well." But when you actually observe them spending hours posting advertisements on job boards, and trying to use Google Sheets, email, and pen and paper to hire people, you realise their notion of 'good' is actually very backward.

WHAT WAS YOUR FUNDRAISING JOURNEY LIKE?

I have gone through six rounds of fundraising. The first one was for QuikForce, the company I set up prior to Workstream. That company ultimately failed, and the fundraising for it was very tough. I was based in Boston then. It took me six to nine months to raise about half a million dollars, because I was in the US on my own, an immigrant without a wide network. I tried many times to raise funds but I was turned down by almost everyone I met.

When it came to Workstream, our seed funding round was in February 2018. We obtained US$2.4 million from Basis Set Ventures in about three and a half weeks, which was considered fairly quick. Then we had an angel investor Eric Yuan, the CEO and founder of Zoom. Eric is also an immigrant like me and has been a very kind and helpful mentor right from the start. After his investment, I was able to get a few other angel cheques.

My second round of funding was harder, which is typically the case when raising Series A funding. Prior to Series A, you can raise funding based on the trust and vision of the founders, but in the Series A round, you need to have a business model. By that time, we had about half a million customers, so we had some traction, and our team comprised about 20 to 30 people. We pitched to over 60 funds, and in the end, we were very thankful that we got seven offers. We chose Peter Thiel's Founders Fund to take the lead for our Series A round. Keith Rabois, former COO of Square, came on to join our board too.

One of the key things about fundraising is that it is very helpful to talk to many people at the same time, so you can create some kind of FOMO–fear of missing out.

Fundraising is always about three things: your team, your market, and your product. First, investors want to know who the founders are. Do you have the right people to do business, sales, and marketing, and also to write the code and software? You must have a very strong founding team who really wants to do this for the next five to 10 years. Second, how big is the market? Do you have to raise venture capital (VC) funding? Is it something that can go public? The third thing is the product; why hasn't anyone in the past built what you have built? What is the pain point that you are trying to solve?

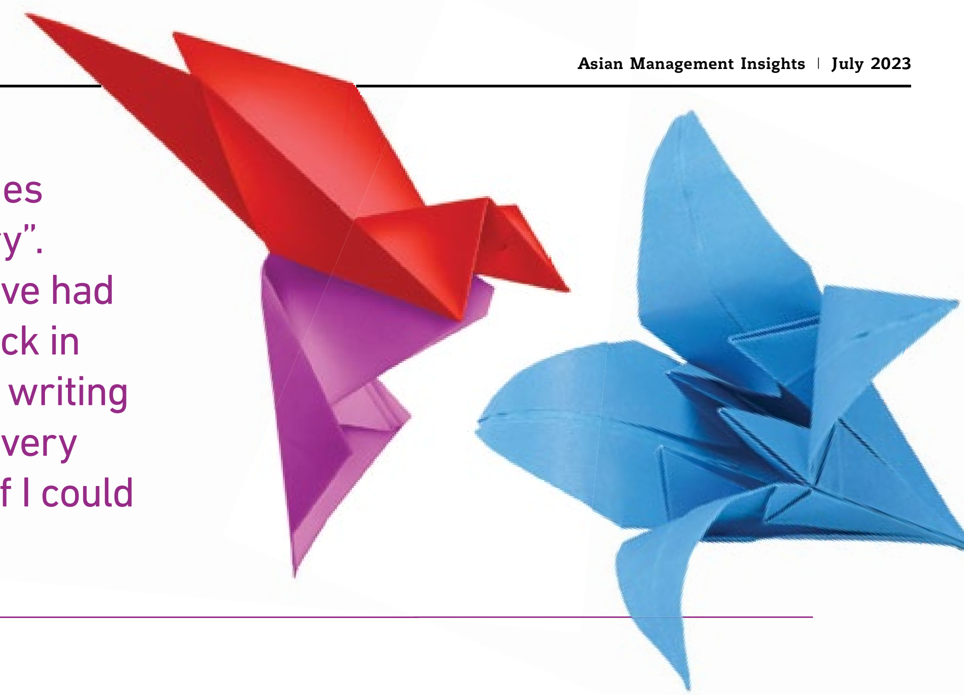
One of the key things about fundraising is that it is very helpful to talk to many people at the same time, so you can create some kind of FOMO–fear of missing out. As a new founder, the balance of power is not with you; it is with the fund. The fund can say no, but the new founder cannot. The new founder can only say no if he/she chooses to reject the offer, so lining up many funds and angels to talk to at the same time will provide more options.

And choosing who to partner with is crucial. In the past five or six years, I have often chosen a lower price or less funding if that partner is someone I think is good and strong. Eric always says, "Find someone who really trusts you and believes in you". Things change and companies go through ups and downs, so choose well. We have been very blessed; we've been through our fair share of ups and downs but it helps to have partnered with many VCs and funds who have been founders themselves and often guide and lead us when we need to make tough choices.

HOW DO YOU VALUE A COMPANY?

Trying to figure out the price of a company is always tough. What I typically do for earlier-stage companies is figure out the average price for a certain type of company in the market that you are trying to raise in and raise from. Once you know the average, you can come up with a range of numbers. When I was trying to raise my seed funding, the average was between US$8 million to US$20 million for a company with a team of five to 10 people and some customers but not much revenue. When I went out to raise funding, I did not tell potential investors the price I wanted. This is a key point. I simply told them, "This is my business pitch. This is my growth plan, team, market, and product. I'm trying to raise anywhere from US$1 million to US$3 million for this round." I did not say the price I was looking for. I then used the same pitch on seven to 10 funds.

If you are very lucky and get three to five offers, you can see who gives the best price right there. Don't be too worried about the price because most of the time you have no choice; it really depends on the market. But you should do your homework first.



One of our company values is "Be humble and hungry". This is a value and trait I've had since I was a student. Back in my freshman year, I was writing cold emails to mentors every single day, trying to see if I could learn from them.

Many start-up founders don't find out about the average price and they either raise at too low, or even worse, too high a price. If you raise at a very high price from an angel who doesn't know the right price, and he/she loves your team so much that you get a $100 million price, you are gone! How are you going to raise the next round of funding?

DO YOU HAVE ANY ADVICE FOR ASPIRING FOUNDERS?

One of our company values is "Be humble and hungry". This is a value and trait I've had since I was a student. Back in my freshman year, I was writing cold emails to mentors every single day, trying to see if I could learn from them. I was attending five to six classes every single term while playing basketball for my college and running the Thai restaurant. I was just so hungry and also very keen to learn from other people. I think this trait has really helped me throughout the past 10 years.

When I first went to Silicon Valley, I was a first-year Master's student at Harvard. The first thing I did was write emails to more than 100 start-ups in the Bay Area, asking them, "Can I work for you for free?" That was my tagline. Most of them said, "No. Why would I take in this immigrant to work for me?" But there was one very small start-up founded by two female immigrants who said yes to me. So I paid for my own flight and stayed at a friend's house. Even when I was back in Boston, I was attending seven classes every term while trying to run QuikForce. So that would be my top advice: be humble and hungry.

Another piece of advice: If you are an early-stage company, it is better to focus on one market for the first year or two. When the company gets larger, you will probably have enough revenue, customers, and sales to send a tiger team of anywhere from two to five people to the target market. It should ideally be a mix of teammates from the headquarter country who could maintain the DNA, values, and culture of the company, and team members from the target market who have local knowledge. That way, you have the best of both worlds to push things forward. Our overall headcount now is about 250 people. We have built strong hubs across several locations including Singapore. In the Philippines, we have strong customer support staff. In Vancouver, we have a lot of really good engineers, and in the Bay Area, we have various teams dealing with products and more.

I would say that whether you're in Singapore or Silicon Valley or anywhere else, as a first-time founder, the longer you can push back your fundraising, the better. Once you get funding, you will feel some pressure to do well in order to pay your investors back. What I typically tell other founders is to try to bootstrap for as long as they can without funding. First, be very clear about what you are trying to build and what problem you are trying to solve. Find one to three other founders who want to be with you on this journey. All these things are very tough to achieve. They can take anywhere from three months to even three years. Figure out what you are trying to build even if you don't have the software or technology built out yet, and find your team. And most of all, focus on what the customer wants.

For my early-stage companies, I usually talk to more than 100 potential customers in the very early days. In the case of Workstream, there were actually a couple of clients who cried when they saw our software, because we could help them save so much time and energy. There were also many clients who spent tens, if not hundreds, of hours with us to share their challenges and give feedback to make our software better. So always talk to your customers, and listen to what they have to say.

Rebuilding Supply Chains in APEC

This calls for greater collaboration.

by Rebecca Sta Maria

We began 2022 with much optimism. The spread of COVID-19 seemed on the wane and borders were reopening. Unfortunately, by late February, all bets were off. The war in Ukraine, high inflation, supply chain disruptions, food security, and other challenges meant we had to recalibrate and collaborate to ensure we weather this polycrisis.

In the early days of the COVID-19 pandemic when we experienced disruptions in supply chains, we learnt very quickly that we needed to adapt and change in response to this new reality. Businesses had to rethink their supply and value chains—not just optimising for lower costs but also planning for resilience and managing logistical risks. For governments and policymakers, it meant having a greater focus on collaboration and facilitation.

Let me highlight two points: the role of government and that of Asia-Pacific Economic Cooperation (APEC) in this conversation on strengthening supply chains.

THE ROLE OF GOVERNMENT

The APEC region's economic recovery in 2023 is expected to be fragile, given the headwinds of rising inflation and prolonged geopolitical conflicts. In view of such a scenario, the role of government must be to facilitate business and foster a conducive environment for trade and investment. This involves collaborating with partners at the macro level to manage cross-border challenges and non-tariff measures, as well as ensuring policy coherence and mutual recognition of regulations. At the same time, there must be efforts to work domestically on chokepoints that impede the flow of goods and services. Additionally, there needs to be a focus on building the necessary digital infrastructure and promoting digital skills development and literacy to enable meaningful participation of small businesses in supply chains.

For example, Thailand launched CustomsConnect, an online platform that enables traders to pay customs duties and related fees to the Royal Thai Customs conveniently and securely anytime, enabling the country to collect revenue faster and more cost-effectively.[1]

Meanwhile, in the area of digital connectivity, China has introduced several pilot projects to enhance cross-border customs collaboration by utilising intelligent and creative approaches. These initiatives primarily concentrate on the creation of interoperable digital systems that facilitate trade, reduce the time required for customs clearance, and improve the overall effectiveness and efficiency of customs control.[2]

THE ROLE OF APEC

APEC's *raison d'être* is to make it faster, cheaper, and easier to do business in the APEC region, so that the open, dynamic, resilient, and peaceful region envisaged under APEC Putrajaya Vision 2040 can become a reality.[3] The Aotearoa Plan of Action brings the vision to life by outlining clear actions for APEC member economies to work on through their domestic policy.[4] For example, member economies can develop tools to help businesses operate easily and cost-effectively across borders.

At the onset of the pandemic, there were concerns with protectionism and vaccine nationalism. But the 21 APEC member economies came together, meeting virtually, to pledge support for the facilitation of vaccine movement across borders and low tariffs for essential medical goods. APEC policymakers worked closely with the business community to facilitate the flow of goods and services, especially those that most support health and economic responses at that critical time. They ramped up trade facilitation efforts to move COVID-19 vaccines and essential goods across borders, including preventing the movement of counterfeit vaccines and related goods in cooperation with relevant international organisations.

For example, Australia implemented temporary export controls to stem the hoarding, non-commercial export, and profiteering of personal protective equipment and disinfectants. These measures prevented individuals and criminal organisations from purchasing these items in bulk from retail stores for profit. The New Zealand Customs Service also facilitated uninterrupted trade by assisting various parties, such as importers, exporters, customs brokers, and logistics operators, with their COVID-19-related concerns. It provided dedicated teams to handle queries about border clearance of essential goods and services.[5]

APEC policymakers also refrained from imposing unnecessary export restrictions. Some economies even continued to liberalise or maintain zero to low tariffs for vaccines and other medical supplies. For example, the Health Sciences Authority of Singapore (HSA) temporarily liberalised its import regulations for surgical masks, particulate respirators, thermometers, and protective gear for medical professionals. It did not require importers of these products and devices to obtain an importer's licence. Instead, prior to importation, importers were only required to notify HSA of their intention to import, as well as provide information on the brand and quantity of the products and devices.[6]

At the same time, Best Practice Guidelines for APEC Customs Administrations were put in place.[7] The guidelines comprised a set of operational and practical measures to ensure the region's supply chains are equipped to facilitate the flow of COVID-19 vaccines and related goods.

APEC'S WORK ON SUPPLY CHAINS

APEC provides the platform to strengthen collaboration, including making sure that supply chains embody strong environmental and labour standards, and working to identify bottlenecks in the supply chains of different sectors. An important part of APEC's work is strengthening global supply chain integrity. It developed the Roadmap for Supply Chain Security, which included the Supply Chain Security Toolkit aimed at improving global medical product quality and supply chain security across its entire lifecycle.[8] It also provides an international forum for experts in medical product quality and supply chain security to collaborate and address the continuing challenges of an increasingly globalised and complex supply chain of medical products.

In 2022, APEC members endorsed Phase Three of the Supply Chain Connectivity Framework Action Plan (SCFAP III) 2022-2026. This supports APEC businesses in building secure, resilient, sustainable, and open supply chains, thus creating a predictable, competitive, and digitally-interconnected Asia Pacific region.[9]

GOING FORWARD

The pandemic may be waning, but we are not out of the woods yet. We remain vulnerable to supply shortages in addition to other global challenges, including that of climate change with continuing acceleration of extreme weather disasters, which affect workers, businesses, and households across the globe. Last year, Thailand, as the host of APEC, led initiatives focusing on connectivity, inclusivity, and the environment. These reflected the importance of collaboration and flexibility: a collective realisation that working for the greater good remains relevant. These are the values that APEC will continue to promote in 2023. As APEC 2023 host, the US will steer the group as it tackles the downside risks, focusing on the economic well-being of the region. In fact, over the past months, senior officials from all APEC member economies have been holding in-person meetings in the US, signalling renewed commitment to cooperation despite divergences arising from global geopolitics.

We started this year with a stronger sense of optimism. We need to build on the lessons learned from the pandemic, specifically in ensuring predictability in our rules, and flexibility to facilitate the flow of essential goods and people. This requires more regional and global collaboration in research, manufacturing, and distribution. Governments must ensure that rules and regulations do not stifle innovation, and balance facilitation with public interest. As such, the work in APEC will continue to focus on reviewing our policies, guidelines, and regulatory innovation, thus distilling best practices and sharing them more widely. AMI

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FUTURE-PROOFING HEALTHCARE SYSTEMS

This includes tackling climate change challenges too.

by How Choon How

Singapore citizens have an average life expectancy at birth of 83.5 years,[1] a statistic that is amongst the highest in the world. This increase in life expectancy, also observed across many countries, is the result of several great achievements by public and healthcare leaders over the last century, including access to clean water and better sanitation, as well as improved living conditions. The challenge for us in healthcare is to sustain, or even improve these standards as we approach 2050.

The year 2050 is an important marker—by that year, the global urban population is expected to more than double its current size, with close to 70 percent of the global population living in cities.[2] The challenge is compounded once we consider tackling global externalities such as environmental degradation and climate change from the local healthcare industry, and reviewing the amount of energy needed to power medical facilities, as well as the resources needed by the global healthcare supply chain to provide medication, vaccines, gloves, and masks.

In this article, I aim to share about the pressing issues that confront healthcare systems. I will highlight examples from Singapore such as Healthier SG, the latest nationwide healthcare transformation that pivots our centre of gravity from solely providing healthcare services to upstream prevention and early intervention with a healthier community. Next, I discuss the role of technology and the digital world in improving health and healthcare, before ending with a mention of sustainability, an increasingly salient aspect in the coming years. Medical professionals will need to work with society to effect change and catalyse these transformation efforts.

CHANGING POPULATION DEMOGRAPHICS

Given Singapore's rapidly ageing population, its healthcare systems must adapt to not only operating with a smaller healthcare workforce, but also coping with the care of a larger number of older adults with complex health challenges and comorbidities, which is the simultaneous occurrence of several medical conditions. These will mean a significant increase in public spending for healthcare and a greater need for long-term care. These expected constraints are based on the assumptions that older adults beyond a fixed age will become more dependent on their families and society.

Singapore has taken several steps in the last decade to review the social compact of a fixed retirement age and readiness of its population to optimise the longevity dividends. This includes healthcare programmes that cater to the Pioneer and Merdeka generations[3], as well as the other government initiatives to keep older adults learning and transitioning into new roles or jobs beyond their fixed retirement age according to their employment, economic, and health status.

Over the last decade, healthcare organisations have gradually extended the retirement age, enabling experienced healthcare workers to extend their prime and still contribute their expertise beyond a pre-determined age. Healthcare professionals can be role models and strong advocates to fight ageism in their respective communities. In helping the community understand the common physiological changes observed in older adults, we may be able to better realise the potential of mature workers who tend to be more skilled in solving complex problems at their workplaces. A mixed-generation workforce has also been shown to bring out optimal productivity.[4] Allowing our people to work productively for a longer part of their lives not only secures their independence and preserves their dignity, but it also reduces dependency on public goods and services.

HEALTHIER SG: A PRIMER

Healthier SG marks Singapore's latest and most ambitious effort to mobilise its residents and transform the country's approach to achieve better health for all. In a nutshell, Healthier SG is a multi-year endeavour which aims to pivot from an institutional healthcare delivery-centric system towards a place-based population health model with an emphasis on prevention and early interventions anchored in our communities.[5] What does this mean?

Within the healthcare system, the gravity will be shifted from acute care hospitals towards the Primary Care Networks that comprise general practitioners (GPs), who are supported by nurses and care coordinators. The latter two provide holistic and coordinated care to enrolled patients with chronic conditions, such as diabetes, hypertension, and high blood cholesterol. This team-based approach ensures that residents stick to their trusted health advisors and are better cared for in the community. The GPs will be integrated with the three regional health clusters: SingHealth[6], National University Health System, and National Healthcare Group, and also partner agencies such as the Agency for Integrated Care (AIC), Health Promotion Board (HPB), Sports Singapore, and social and community partners to support the residents' health goals. Together, they will extend services to improve health through initiatives that include getting sedentary folks moving to the latest K-pop (Korean pop) music or Zumba to social screenings for the communities. At the same time, residents can complete their regular health screenings and vaccinations, which are important for at-risk individuals and will enable timely preventive measures. As we have seen from the many waves of the COVID-19 pandemic in our country, appropriate population-level vaccination and measures are well-poised to bend the trajectories of disease burdens towards better health outcomes.

Singapore will leverage on its rising digital literacy rate and the high ownership levels of personal smart devices in its population to return agency for health to its citizens, supporting them with pushed health information that will involve and nudge them towards better health behaviours. Under the National Primary Care Enrolment programme[7], all Singapore residents will be "invited to enrol with a family physician of their choice". Family physicians or GPs therefore constitute the 'first line of care' which supports the residents for various health needs and care episodes, ensuring continuity of care across their life-course. Additionally, by empowering citizens to achieve individual mastery of their own health, it is hoped that issues of chronic diseases and longstanding unhealthy behaviours like obesity and smoking within the communities can be addressed.

Healthier SG was scheduled to launch in July 2023 with about 1,000 GP clinics, approximately three quarters of all eligible ones. All Singaporeans would be invited to join the National Primary Care Enrolment programme in batches, starting with older adults. This integration of care within each community will involve working out new forms of collaboration between healthcare providers and community partners who have deep knowledge of and connections to the residents they serve. Many more health-related activities with an emphasis on prevention, such as health screenings, vaccinations, health and mental wellness talks, and the strengthening of social networks within our communities, are planned.

To achieve these plans, the speeding up of the scale and adoption of telemedicine by GPs is critical. There were many examples of telehealth and remote monitoring deployed during the pandemic. For example, Covid@Home was launched on the DrCovid app to monitor the health of vulnerable patients through a common local chat service that was supported at the backend by clinical management software.[8] Telemedicine and remote monitoring have become widely accepted, laying the foundation to include more inpatient conditions in our Hospital@Home initiative across our acute care hospitals.

Unsurprisingly, global attention is on Singapore, as it is the first country to embark on such a whole-of-country healthcare transformation effort. It must also be noted that all these efforts build on the successful primary care services and funding programmes established within the last two decades, from the Chronic Disease Management Programme to the Community Health Assist Scheme[9] (CHAS)[10] and the Primary Care Networks.

WE NEED ALL OF THE MACRO, MICRO, AND NANO

At the macro level, we have achieved so much in health outcomes. And as medical science continues advancing, we can look forward to diving deeper into how our body works. However, an old truism–"as we learn more and more about less and less, soon we will know everything about nothing"–reminds us that the never-ending specialisation in medicine can be both a boon and a bane. I also remember an old quip that we may soon have 'organ' specialists who sub-specialise to only look after the left pinky. Therefore, as we develop precision medicine involving more micro, or even nano interventions (with the ability to predict and treat at the genetic code level), we also need to learn and collaborate across domains and industries. For example, while medical advances enabled the quick development and delivery of the various COVID-19 vaccines, the successful execution of public health measures and the high level of community participation were equally important in saving lives during this pandemic. Likewise, regarding the unhealthy lifestyle choices adopted by our ageing population and the social pandemic of obesity, we must re-imagine how healthcare services can be improved, particularly by working with all stakeholders to enhance health at a personal and community level for our population.

Working towards this end, Singapore has commissioned its three regional healthcare clusters to be every resident's community health manager. This may require the healthcare community to adopt a more holistic approach, while cross-disciplinary collaboration with academics, including sociologists, psychologists, and those from other social science disciplines and the humanities, will help guide our involvement with businesses, employers, grassroots leaders, and community partners as we work together to put Healthier SG into action.

The heaviest yoke may fall on Changi General Hospital (CGH), the 'anchor' hospital in eastern Singapore that will be accountable for the highest number of older adults in neighbouring Bedok and Tampines estates. CGH had recognised this and got a head start in going macro with community initiatives over the last decade like its Neighbours for Active Living and Friend A Senior programmes. These programmes mobilise the older retired adults with time at hand to befriend a peer with poorer health in their neighbourhood. The programmes have not only strengthened community connectedness, but the volunteers also helped their frailer neighbours. Together, they have helped reduce the hospital readmissions and hospitalisation days of older patients.[11]

Within the healthcare system, the gravity will be shifted from acute care hospitals towards the Primary Care Networks that comprise general practitioners (GPs), who are supported by nurses and care coordinators.

With rising digital literacy and the prevalent use of individual smart devices, we need to learn to move effectively beyond the brick-and-mortar healthcare institutions and deliver health information, monitor diseases, and realise the potential of self-help services in more effective, efficient, and sustainable ways.

TECH SHOWS THE (PARTIAL) WAY

We should begin incorporating evidence-based practices into the clinical management systems across our primary care and long-term care facilities. These practices, which were captured in clinical algorithms that were developed in our Artificial Intelligence (AI) projects, can be automated prompts or decision aids that help reduce the cognitive burden on our healthcare professionals. With the widespread adoption of commercial options of health wearables, the same clinical algorithms can also be adapted to help people make informed behavioural choices to achieve better health outcomes in their everyday lives. A successful example is LumiHealth, an engaging collaboration between Apple and HPB that incorporates challenges and health nudges through gamification.[12]

Setting up HealthHub, the national population enablement platform for digital health, is another significant initiative that will help connect all actors as one community to maintain the good health of all individuals. Timely behavioural nudges through the Healthy365 app via their smart devices will also extend the reach of Healthier SG efforts to every resident. These national apps will be paired seamlessly with, for example, SingHealth's HealthBuddy app, for residents to view evidence-based health and wellness information, access health records, and perform transactions like bill payments across public healthcare clusters.

The various regional healthcare clusters will also be exciting test beds to validate new technologies for health promotion and monitoring. In 2012, CGH, one of Singapore's leading 'smart' hospitals,[13] established a dedicated office to oversee innovation efforts.[14] Then in 2015, it set up the Centre for Healthcare Assistive and Robotics Technology to spearhead tech-centric transformations. These are important initiatives to reduce mechanical work for healthcare workers, and there should be many more of such opportunities for health start-ups to develop innovative solutions and new technologies to forge the way ahead into a more sustainable future of healthcare.

With rising digital literacy and the prevalent use of individual smart devices, we need to learn to move effectively beyond the brick-and-mortar healthcare institutions and deliver health information, monitor diseases, and realise the potential of self-help services in more effective, efficient, and sustainable ways. We have much to learn from the successful transformation of digital banking about how the financial institutions secure our individual digital financial data that is just as confidential as individual medical records.

PEOPLE, PEOPLE, PEOPLE

At the centre of all change management efforts is the people. They include policymakers, healthcare professionals, and residents. Our policymakers are working to garner sufficient attention and buy-in to the shared vision of a healthier Singapore. The willingness to collaborate across government agencies, voluntary organisations and grassroots, and the journey to success envisioned in Healthier SG should never be taken for granted.

On the healthcare providers front, even before the COVID-19 pandemic, there were real tensions, in terms of attention and time, between maintaining high standards of clinical 'business-as-usual' operations vis-à-vis diverting resources to embark on healthcare transformation. There are no clearer priorities for healthcare providers beyond attending to patients who need care urgently today, but they must also attend to future challenges. Healthcare transformation requires strong leadership sponsorship, teams, and offices dedicated to these causes. These efforts should be guided by evidence-based recommendation, data-driven insights, and delivery methods widely accepted by our population.

Healthcare systems have for the longest time been, by design, specialist-driven and hospital-centric, with a high proportion of inpatient care. Working efficiently in a cost-effective healthcare system requires healthcare professionals to work together in teams. The correct professional mix of doctors, nurse clinicians, health coaches, and care coordinators is needed for success. If the primary care provider or hospital is neither adequately resourced nor integrated, it will not be able to effectively manage chronic illnesses and comorbidities as a system. Such healthcare delivery models will either increase out-of-pocket costs for the patients or severely strain the sustainability of public health financing.

BRINGING SUSTAINABILITY INTO HEALTHCARE

Inevitably, national healthcare systems need to deal with the (environmental) 'elephant in the room'. The healthcare sector is responsible for 4.6 percent of global greenhouse gas emissions.[15] In Singapore, the hospitals generate about 5,000 tonnes of waste annually from the use of disposable supplies as part of infection control and other single-use medical and biohazard wastes.[16]

Healthcare as a system generates carbon footprint directly or indirectly through its provision of services. Healthcare-related traffic involves moving patients, healthcare workers, and healthcare supplies to and from healthcare institutions. Without compromising high standards of care, we must review our processes and re-design them with appropriate technological innovations to reduce our carbon footprints. The COVID-19 pandemic has also accelerated a critical review of how much travel can be replaced by technology, such as telehealth. Many patients could actually be cared for from their homes. We thus need to further review the inpatient characteristics and service requirements of our acute hospitals and other intermediate and long-term facilities.

Healthcare institutions will also need to continue working with academics and industrial leaders through research and collaborations to speed up their efforts to make positive environmental impact and optimise the digital realm to deliver healthcare effectively and efficiently to the masses–much as how online shopping, digital banking, and social media have permeated our daily lives. In fact, many countries like the UK have already included environmental sustainability in their medical school curriculum.

Another aspect of sustainability is our healthcare capacity and redundancy to cope with acute stressors, like pandemics and mass casualty events, such as natural disasters. We have experienced the Severe Acute Respiratory Syndrome (SARS), H1N1, and COVID-19 pandemics within a mere two decades. This is a sober reminder of the speed and extent of spread of infectious diseases, despite our improved capabilities to identify and develop treatment for novel infections. Many countries have shared their experiences from the COVID-19 pandemic and several academic papers have been published to disseminate these important lessons. All these will not be enough if there is no effort to make structural changes or investments that build resilience and redundancy in preparation for the next pandemic. Disease surveillance for novel zoonosis, like avian and swine flu, especially with suggestions of human transmissions, will require active collaboration across many countries and open sharing of information coordinated at an international level, such as that conducted by the World Health Organization. These must be coupled with swift and decisive preventive measures to minimise the risks when it is detected.

Healthcare transformation requires strong leadership sponsorship, teams, and offices dedicated to these causes. These efforts should be guided by evidence-based recommendation, data-driven insights, and delivery methods widely accepted by our population.

In Singapore, sustainability is becoming one of the top priorities for healthcare organisations and institutions. SingHealth, for example, has set up an environmental sustainability shared services group to review and work on the four priority areas of energy utilisation, water efficiency, waste disposal, and carbon emissions. We should act to create a positive impact on our environment, including adopting measures towards becoming carbon-neutral, reducing food waste, promoting recycling, and making sustainable procurement decisions.

CONCLUSION

I have highlighted several issues that will challenge healthcare systems, such as that of Singapore's, in the coming decades. The changing disease burden and population demographics can potentially be tackled with upstream preventive interventions at the individual level with timely screening and behavioural nudges towards healthier lifestyle choices to reduce premature complications and cut increasing healthcare spending across the world.

There is much wisdom and experience from other industries that healthcare can draw from, e.g., digital banking and finance, and in the process leapfrog them in bringing information and prompts into our everyday lives. This transformation required in our healthcare systems also offers opportunities for start-ups and technological solution companies to step forward to co-create the future of health and healthcare for everyone. AM

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This article is written in the author's personal capacity and the views are entirely his own. They do not necessarily represent the views of the organisations he is affiliated with.

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